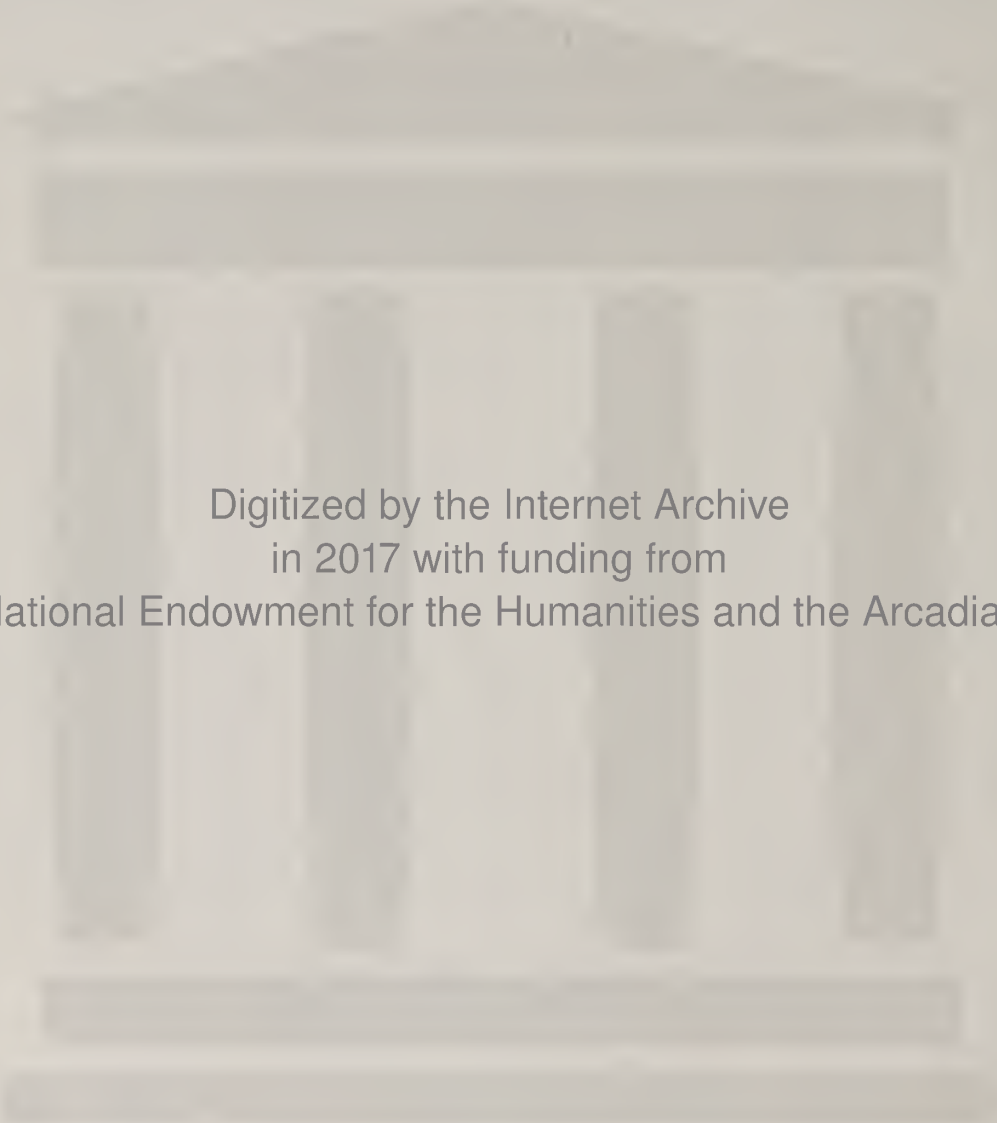


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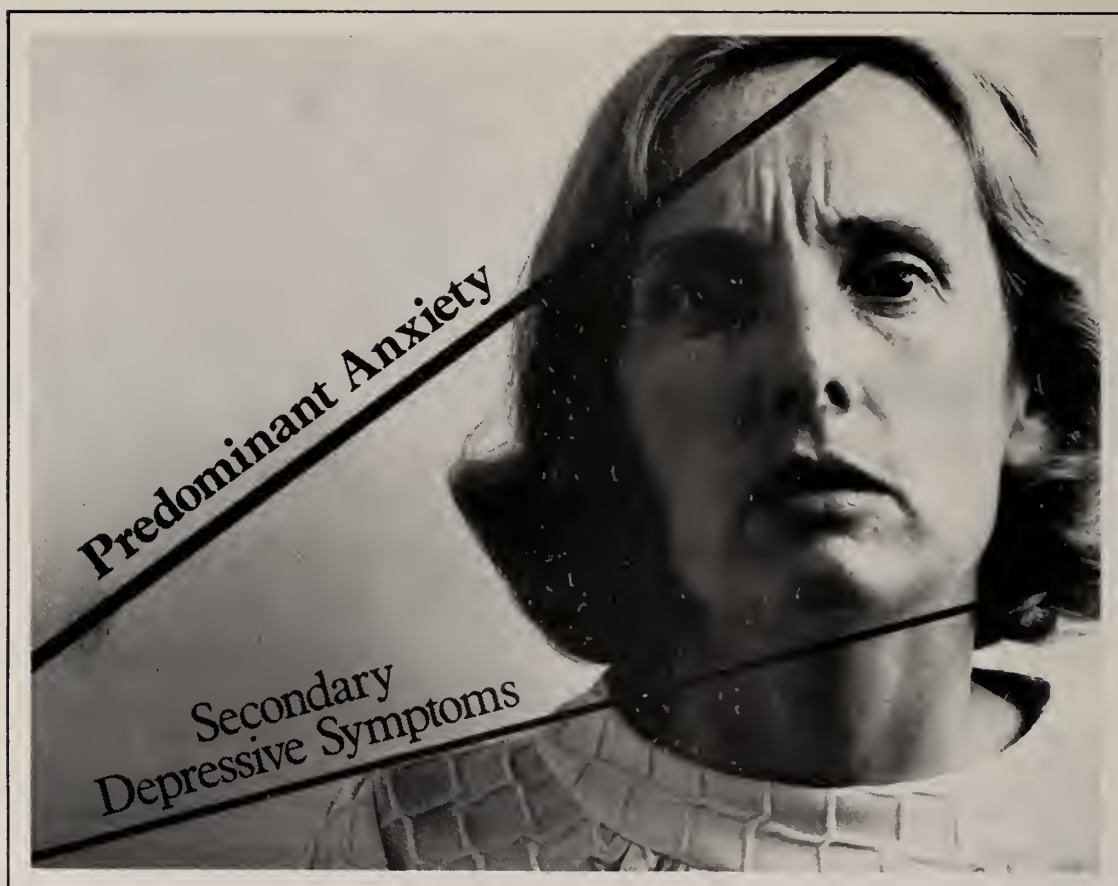
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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive dis-

orders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant

medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

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some patients may require a longer period. Moreover, Valium (diazepam) is generally well tolerated. Side effects most commonly reported are drowsiness, ataxia and fatigue. Caution your patients against engaging in hazardous occupations or driving.

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or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred

vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been established. Therefore, they should not be used extensively on pregnant patients in large amounts or for prolonged periods of time.

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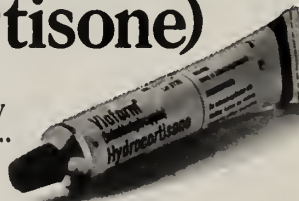
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Enero 1974

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BETA-THALASSEMIA TRAIT IN PUERTO RICANS - *A Preliminary Study*

Norman Maldonado, MD
Enrique Vélez García, MD
Norma Sánchez, BSMT

Thalassemia has been diagnosed very infrequently in Puerto Rico. To our knowledge there are three reports in our medical literature dealing with this condition. In 1962 Torregrosa, Cintrón-Rivera and Guzmán Acosta presented a case of thalassemia major which was subsequently published in 1965 (1). In 1964 Prado, Santana and Rodríguez from Ponce, reported a family with sickle cell thalassemia (2). In 1969 Menéndez-Corrada, Fernández and De Sala reported a patient with thalassemia minor and infection (3). This was the first case of thalassemia minor described in Puerto Rico. The purpose of this presentation is to report several cases of thalassemia minor seen at the Puerto Rico Medical Center and in various clinics sponsored by the Regional Medical Program.

Materials and Methods

We have studied twelve patients referred to our laboratory for the evaluation of refractory anemia with evidence of hypochromia, poikilocytosis and anisocytosis. The patients had complete evaluations including history and physical examinations. Complete blood counts including blood indices, peripheral blood smears, and bone marrow aspirations with hemosiderin stains were performed initially as screening tests.

Serum iron, hemoglobin electrophoreses, sickle cell preparations, determinations of fetal and A_2 hemoglobin were done subsequently in all the patients. Relatives of five of these patients were studied and a total of 20 patients with thalassemia minor were diagnosed. An additional number of relatives were found to have elevated A_2 hemoglobins but other studies were not done and they are not included in this report.

The fetal hemoglobin was determined by the alkali denaturation method. A_2 hemoglobin was determined by starch block electrophoresis (4).

From the Hematology Section of the Department of Medicine, University Hospital, University of Puerto Rico School of Medicine, and the San Juan City Hospital, San Juan, Puerto Rico. This study was partially supported by the Regional Medical Program, Grant No. 73-203-5142.

Results

All of our patients had a history of anemia for many years and most of them had been treated with oral and parenteral iron without beneficial effects. They all had mild to moderate anemia when seen initially; pregnant patients had the lowest hemoglobin values. Only two patients had a history of jaundice and one of the patients had a palpable spleen. There were no other significant physical findings except for pallor in most patients. The hemoglobin values ranged from 7.6 to 12.7 gm./100 ml. The blood indices showed a mean corpuscular volume (MCV) which ranged from 54 to 75 μ^3 with a mean corpuscular hemoglobin (MCH) from 18.9 to 24.8. The reticulocyte counts ranged from 1.9 to 6.2 percent. The peripheral smear of most patients showed poikilocytosis and anisocytosis with hypochromia, slight polychromatophilia, some basophilic stippling, target cells and characteristic pencil-shaped forms. These findings were more pronounced in some patients than in others. The bone marrow showed slight erythroid hyperplasia in all patients with normal or increased iron stores in all 13 patients studied. The serum iron was done in ten patients and it ranged from 80 to 210 mcg/100 ml. The sickle cell preparation was negative in all patients and cellulose acetate or paper hemoglobin electrophoresis showed hemoglobin AA in all patients. Hemoglobin A_2 was determined by starch block electrophoresis in normal controls and ranged from 2.4 percent to 3.4 percent with a mean of 2.9 percent. In patients with thalassemia minor hemoglobin A_2 was above 3.0 percent in all ranging from 3.16 to 11.8 percent. Fetal hemoglobin ranged from 0.2 to 7.8 percent in these patients. See Table I.

Three families were studied. Family RR showed 8 out of 13 patients with hemoglobin A_2 of 3.3 percent or above. Four of these 9 patients had unquestionable elevation of A_2 hemoglobin, (Fig. 1) blood indices and serum iron supported the diagnosis of thalassemia minor.

Discussion

At the present time the thalassemias are a group of

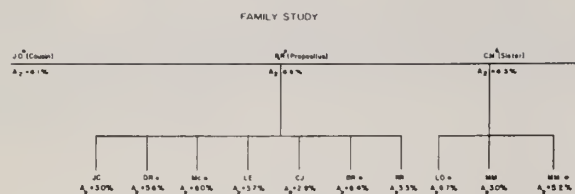


Fig. 1: Family of R.R. showed 8 of 13 members studied with thalassemia trait. The Propositus had a moderately severe anemia and 3 of her children were affected.

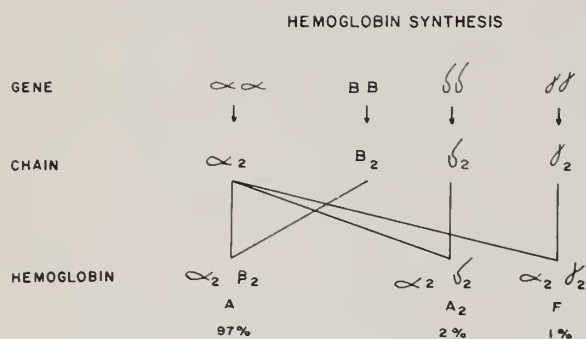


Fig. 2: This diagram shows the normal hemoglobin synthesis.

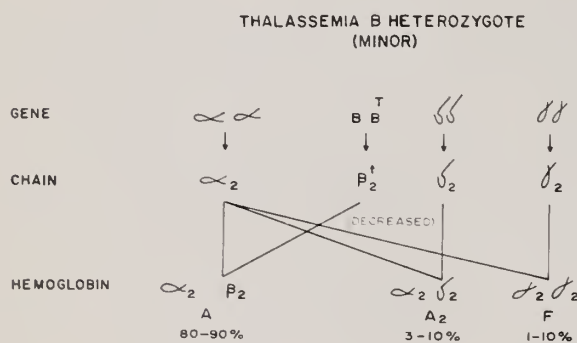


Fig. 3: This diagram shows the abnormal hemoglobin synthesis in beta-thalassemia in which one chain is formed more slowly resulting in increase other hemoglobin, A_2 and F.

closely related and genetically determined syndromes in which there is a diminution of synthesis of one or another of the polypeptide chains which comprise the normal hemoglobin (5). We have four different types of polypeptide chains in the globin molecules which are the alpha, beta, delta and gamma chains (Fig. 2). The

alpha and beta chains form hemoglobin A. The alpha and delta chains form hemoglobin A_2 . The alpha and gamma chains form hemoglobin F. The old classification of thalassemia major, intermedia and minor still has some clinical application. However, it is more proper to classify the thalassemias these days as alpha or beta thalassemias, homozygous or heterozygous as might be the case. The letter denotes the polypeptide chain which is defective. Thus, in the beta thalassemias the synthesis of beta polypeptide chain is defective. Thus, an increase in the combination of alpha chains with either delta or gamma chains occur leading to an increase in the formation of hemoglobin A_2 or hemoglobin F (Fig. 3).

Our patients presented the clinical features expected of this condition. They all had mild anemia and only 2 of the patients showed jaundice and splenomegaly. The physical examination was essentially negative, except for pallor in most patients, slight icterus in one patient and splenomegaly in two patients. Hemolysis can occur in situations of stress as seen in infections, pregnancy or surgery. Two of the patients were pregnant and they had significant drops in their hemoglobins. We did not observe any serious infection or any other complications such as leg ulcers, cholelithiasis or others seen in patients with chronic hemolytic states.

On all the patients, hematologic evaluation confirmed the mild anemia with poikilocytosis, anisocytosis, hypochromia and microcytosis in the peripheral smear. The MCV and MCH were low in those patients in whom it was done, but the mean corpuscular hemoglobin concentration (MCHC) was normal. The red blood cell count was frequently over 5 million/mm³. Osmotic fragility has been described as showing increased resistance to osmotic hemolysis but this test was performed only in one of our patients. Examination of the bone marrow aspirates showed erythroid hyperplasia with evidence of delayed hemoglobinization, and normal or increased iron stores. Those patients who had been treated with parenteral or oral iron for a long period of time showed a more striking increase in iron stores.

The final diagnoses was confirmed by starch block hemoglobin electrophoresis. Conventional hemoglobin electrophoresis is not an adequate test since it does not detect the increase in A_2 or F hemoglobins which may be minimal in some cases. Hemoglobin electrophoresis in starch block was done in order to determine the concentration of A_2 hemoglobin which is the most characteristic in patients with the beta thalassemia trait. In some patients there is a concomitant increase in fetal

TABLE I: THALASSEMIA TRAIT
SUMMARY OF LABORATORY RESULTS

Initials	Hgb/Gms	MCV μ^3	MCH $\mu\mu\text{g}$	MCHC Percent	Percent A ₂ Hgb.	Serum Iron * (Percent saturation)
R. R.	7.6	59	19.9	31.7	6.6	210 (71 percent)
D. M.	8.6	57	18.9	31.1	5.6	
M. C.	9.9	57	19.2	31.5	8.0	96 (29 percent)
B.	9.3	59	19.7	31.3	6.4	96 (30 percent)
N. M.	8.2	65	21.4	31.4	6.6	1/10 (26 percent)
G. M.	10.9	62	21.0	31.7	6.6	1/00 (41 percent)
J. M.	12.3	54	19.3	33.2	5.0	90 (32 percent)
H. H.	12.6	68	22.2	35.5	9.2	1/40 (58 percent)
J. H.	12.2	59	19	35.3	10.7	80 (36 percent)
A. F.	11.3	72	23	32.5	5.9	
W. R.	10.1	63	19.4	29.7	4.9	80 (28 percent)
G. R.	10.8	65	20	29.7	5.8	1/00 (28 percent)
M. L.	11.3	67	20	30	11.8	1/50 (43 percent)
I. M.	11.8	74	24	31.9	5.1	86 (20 percent)
A. M.	11.1	75	24	32.6	5.3	
S. R.	10.2	56	18.8	31.8	5.5	1/24 (32 percent)
M. C.	10.8	60	20.1	31.7	5.1	1/34 (37 percent)
R. C.	12.2	66	20	30	4.3	80 (21 percent)
F. P.	11.7	64	22.4	34.2	5.6	93 (29.6 percent)
M. L.	9.9	59	20.1	33.5	7.1	53 (23.4 percent)
Normals	13-16	80-92	27-31	32-36	0-3.00	60-100

* Mcgm/100ml.

hemoglobin and this was observed in a few of our patients. Less frequently observed is the finding of elevation of fetal hemoglobin alone. This finding is more characteristic of patients with beta thalassemia major.

Erythrokinetic studies performed have shown a relatively rapid plasma iron clearance, indicating increased erythroid activity, red cell iron incorporation is moderately decreased. These findings are compatible with some degree of ineffective erythropoiesis which is characteristic of the thalassemias. We performed these studies in 4 of our patients and the results were abnormal as expected. Red cell survival studies when done, have been normal or have shown slight decrease in survival. Clinically, the degree of anemia correlates closely with the degree of ineffective erythropoiesis.

Although our patients did not have special radiographic studies, routine studies did not reveal the characteristics osseus abnormalities described in patients with severe manifestations of this disease. However, when careful radiographic studies are done, specially

of the skull, minor changes such as enlargement of the diploe space and some degree of hair-on-end appearance has been described.

In his article about thalassemia, Dr. Menéndez-Corradá raises several questions about the scarcity of thalassemia in our population (3). He wonders if the diagnosis was missed, if our Spanish ancestries did not come from the Mediterranean area or if the abundant negro element in our population obscured this trait. Today we can not answer categorically those important questions but we can state that thalassemia minor probably is not so rare among our population. We are reporting 13 patients, in some of whom limited familial studies were done yielding a total of 20 individuals with thalassemia trait. We feel that when more extensive surveys of our population are performed with adequate techniques, many patients with mild chronic anemia now diagnosed of unknown etiology, may indeed turn out to have thalassemia trait.

Summary

Thalassemia has been diagnosed infrequently in Puerto Rico. We studied 13 patients referred to our laboratory for evaluation of hypochromic anemia refractory to iron therapy. Some relatives of these patients were also found to have hypochromic anemia. Twenty patients were carefully studied and found to have thalassemia trait with definite elevation of hemoglobin A₂. The disease should be suspected in a patient with hypochromic microcytic anemia with normal or elevated serum iron and no underlying disease.

The characteristic features of thalassemia trait, laboratory findings and a discussion of the genetic abnormalities that are present in this condition is presented. It appears that thalassemia trait is not an unusual cause of anemia in Puerto Rico.

Resumen

Pacientes con talasemia habían sido diagnosticados muy pocas veces en Puerto Rico hasta recientemente. Hemos encontrado 13 pacientes con anemia hipocrónica refractaria a terapia con hierro. Algunos parientes cercanos fueron estudiados y un total de 20 pacientes con rasgo de talasemia fueron confirmados con elevación de hemoglobina A₂. La condición debe sospecharse cuando un paciente presenta anemia hipocrónica microcítica con un nivel de hierro sérico normal o alto sin evidencia de otra enfermedad.

Los síntomas, signos y hallazgos de laboratorio de

la condición fueron discutidos y se presentaron los aspectos genéticos de esta enfermedad. Es aparente que esta condición es más común en Puerto Rico que lo sospechado hasta ahora.

Acknowledgment

We are grateful to Miss Virginia Minnich, Research Professor of Medicine (Hematology) at Washington University School of Medicine, Barnes Hospital, St. Louis, Missouri for providing us with the initial technical assistance and stimuli which eventually made this study possible.

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Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

Dosage and administration: Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of 1/2 ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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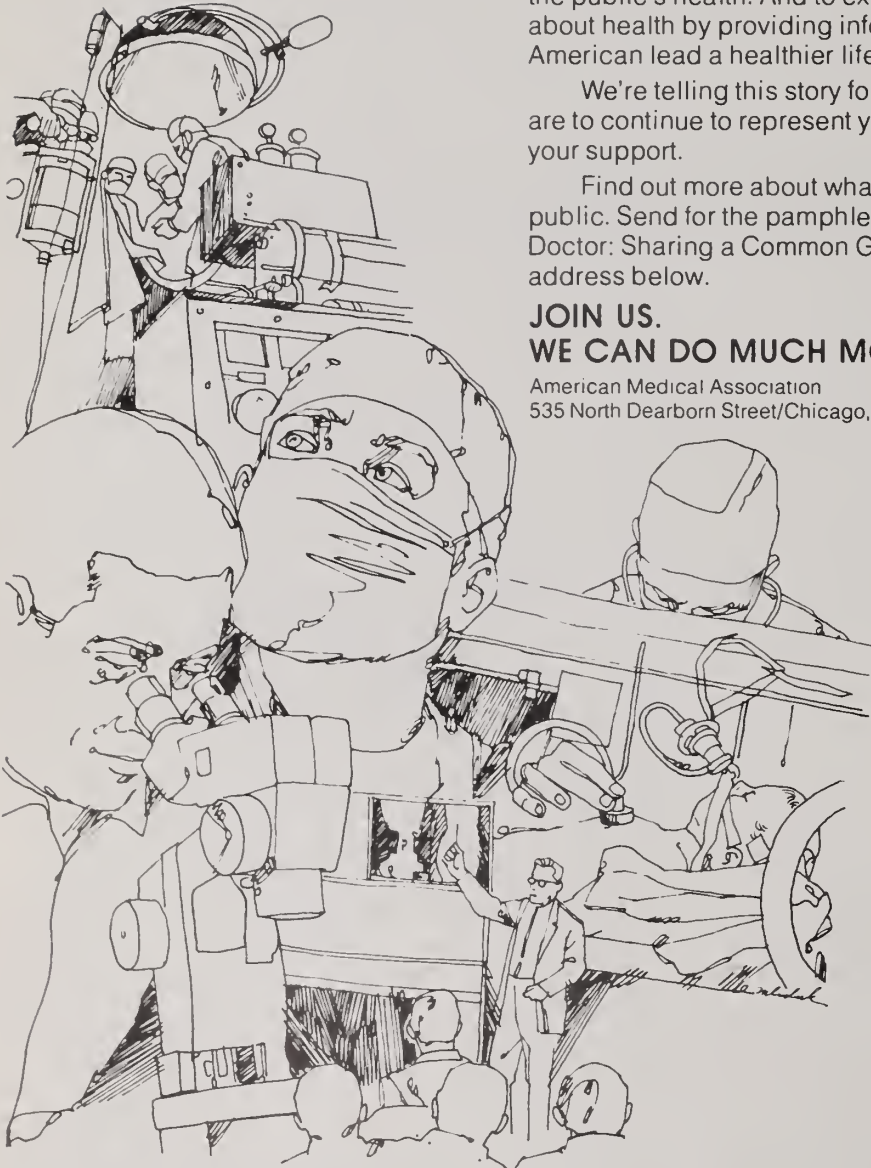
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VARIATIONS IN HISTOPLASMIN SENSITIVITY AMONG SCHOOLCHILDREN IN THE MUNICIPALITY OF CAYEY, PUERTO RICO

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In Puerto Rico the prevalence of histoplasmin sensitivity tends to be higher in the mountainous inland regions than in the coastal areas (1-3). Scattered foci of exceptionally high prevalence seem to exist (2), though the source of infection in these foci has never been determined. Outbreaks of histoplasmosis in Puerto Rico have been traced to bat-infested caves (2, 4) and the organism has been isolated from the soil of a bat cave (5). Bats also inhabit houses and wooden structures in many areas of Puerto Rico, leading us to believe that bats might be important in the epidemiology of histoplasmosis in the areas where they occur. To test this hypothesis and to gather epidemiologic data on histoplasmosis in a Puerto Rican community, we performed a histoplasmin skin test survey in 1970 among schoolchildren in the municipality of Cayey. We selected this area for study because there was community concern over the possible effects of bats in local school buildings.

Materials and Methods

The municipality of Cayey, 49.7 square miles in area, is located inland in southeastern Puerto Rico. The town, or *pueblo*, has an area of 1.38 square miles and is surrounded by 21 *barrios* ranging in size from 0.8 to 4.8 square miles. The *pueblo* is situated at the western end of a narrow plain (elevation 1,300 feet), which comprises 21 percent of the total area of the municipality. Most of the remainder of the municipality has rugged terrain, rising to 2,600 feet in the sparsely populated southernmost part.

The population of the municipality was 38,432 in 1970. Of these, 21,562 persons lived in the *pueblo*, and 3,041 lived in Barrio Toíta, adjacent to the *pueblo*. The remaining

barrios ranged in population from 98 to 1,725.

The population studied was the entire public school enrollment of the municipality. Children in the first through sixth grades usually attend neighborhood schools. The seventh through ninth grade children attend several junior high schools in the *pueblo* and in various *barrios*. All tenth through twelfth graders attend one high school in the center of the *pueblo*. Children living in the *pueblo* are considered as "urban", the remainder as "rural."

Standard histoplasmin antigen, lot HKC-5, diluted 1:500, was injected intradermally into the volar forearm using a jet injector gun calibrated to deliver 0.1 cc. Reactions were read at 48 hours as the maximum diameter of induration. A child with a reaction 5 mm or greater was considered histoplasmin sensitive.

Data on home construction and presence of bats in the home were obtained via a questionnaire completed by the parents. Presence of bats in the school was determined by inspection of the site.

Pigeons, chickens, and fighting cocks are raised in most back yards in the municipality, even within the urban area. There are no major roosts of wild birds.

In June 1970, soil specimens were collected from chicken pens of residences adjacent to the Luis M. Rivera school. Also, specimens of bat guano were collected from the Ramón Frade and old Benjamin Harrison schools. Most schools were closed for vacation and it was not possible to get samples from other schools. These specimens were processed for *Histoplasma capsulatum* by the mouse inoculation procedure (6).

Results

The 7,322 schoolchildren tested were about equally divided between males and females. Figure 1 shows the frequency distribution of reaction sizes for these children. Slightly more than half have no measurable reaction. The frequency of reaction sizes increases slowly to a peak at 9-10 mm of induration, and then gradually declines. The frequency distribution of reaction sizes is similar for both males and females. The overall prevalence of histoplasmin sensitivity for males is 29.4 percent and for females, 29.6 percent.

The age specific prevalence of histoplasmin sensitivity for the urban and rural population appears in Figure 2. The six-year-old urban children have a prevalence of 27 percent, with a nearly linear increase to 63 percent among 18-year-olds. Approximately 10 percent of rural children react positively up to age 12, after

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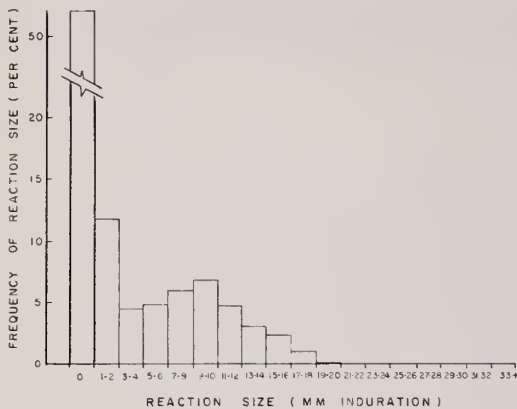


Fig. 1: Cutaneous reactions to Histoplasmin in 7,322 schoolchildren, Cayey, Puerto Rico, 1970.

which a rapid increase to 31.5 percent occurs by age 18. The curves for the urban and rural children are essentially parallel between ages 16 and 18.

Figure 3 is a map of the municipality of Cayey, illustrating the prevalence of positive reactors by *barrios* for lifetime residents. The highest prevalence is in the *pueblo*, and Barrio Toíta, adjacent to the *pueblo* on the north, has the next highest prevalence. The remaining *barrios* have considerably lower prevalences.

The positive reactors in the *pueblo* are not confined to any particular schools. The elementary schools are neighborhood schools, with prevalences similar to the prevalences in the *barrios* where they are located. There are no schools which deviate significantly from the trend described above. There is no clear correlation between presence of bats in the school building and prevalence of histoplasmin positivity (Table I).

Of 6,738 children for whom information was provided, 37 percent have a history of exposure to bats in the home. The percentage of urban and rural children with bats in the home is about equal. There is no appreciable difference in histoplasmin sensitivity between children with home exposure to bats and those without such exposure (Table II).

There is no significant difference in the prevalence of skin test sensitivity among children from houses built of wood or of concrete construction materials. Only 5 percent of the children reported visiting caves. Those who have entered caves have the same proportion of positive reactors as those who have not entered caves (Table III).

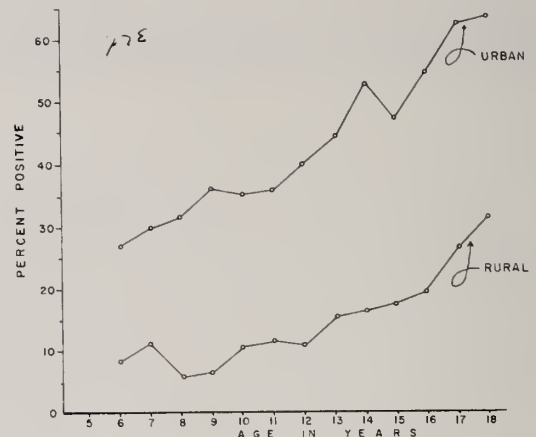


Fig. 2: Prevalence of Histoplasmin sensitivity by age for urban and rural children, Cayey, Puerto Rico, 1970.

A total of 10 soil specimens were collected from the chicken pens of seven homes. Two of the homes were across the street from the Luis M. Rivera school and the others had back yards adjacent to the playground of the school. *Histoplasma capsulatum* was isolated from soil from one of the chicken pens. The number of chickens in each pen ranged from 1 to 35; the one from which *H. capsulatum* was recovered contained 12 chickens. This fungus was not isolated from the specimens of bat guano collected at two schools.

Discussion

Millar, et al. (7) have shown that the jet injector

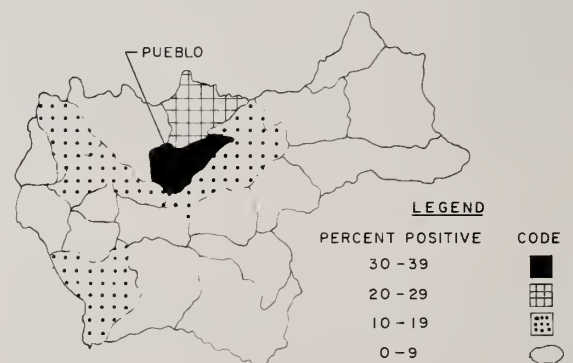


Fig. 3: Percent of lifetime resident schoolchildren positive to Histoplasmin by barrio, Cayey, Puerto Rico, 1970.

TABLE I: HISTOPLASMIN SENSITIVITY IN CHILDREN ATTENDING BAT-INFESTED AND BAT-FREE ELEMENTARY SCHOOLS, URBAN AND RURAL

Location of School	Bats Present in School	Number Tested	Number Positive	Percent Positive
<i>Pueblo</i> and adjacent <i>barrios</i>	Yes	1,712	544	31.8
	No	1,500	471	31.4
Rural <i>barrios</i>	Yes	170	7	4.1
	No	865	85	9.8
Total	Yes	1,882	551	29.3
	No	2,365	556	23.5

TABLE II: HISTOPLASMIN SENSITIVITY IN CHILDREN FROM BAT-INFESTED AND BAT-FREE HOMES

Bats in Home	Number Tested	Number Positive	Percent Positive
Yes	2,491	760	30.5
No	4,247	1,240	29.2
Unknown	584	164	28.1
Total	7,322	2,164	29.6

TABLE III: HISTOPLASMIN SENSITIVITY BY HISTORY OF ENTERING CAVES

History	Number Tested	Number Positive	Percent Positive
Entered caves at least once	370	106	28.6
Never entered caves	6,562	1,942	29.6
Unknown	390	116	29.7
Total	7,322	2,164	29.6

gun can be used efficiently in mass programs for skin testing with histoplasmin, although other authors have found it to be less suitable for tuberculin testing (8-10). The sizes of the most frequent positive histoplasmin reactions in our population are smaller than those in other populations studied. However, the frequency distribution we obtained is similar to those found in other Puerto Rican populations using histoplasmin and the Mantoux method (4). The large number of reactions measured at 1-2 mm and 3-4 mm seems due in part, to inflammation of the entry wound caused by the jet injector.

The presence of bats in children's homes is not associated with increased histoplasmin sensitivity. There is also no firm association between bat infestation in schools and histoplasmin sensitivity in the children who attend them. The known association between bats and housing construction (bats can live in the attics of typical wooden houses, but concrete houses do not have attics) and lack of an observed association between housing construction and histoplasmin sensitivity also suggest that domestic bats are not important in human histoplasmosis. Although certain bat caves in Puerto Rico have been the source of small epidemics of histoplasmosis, in Cayey they do not appear to be a source of infection. The failure to recover *H. capsulatum* from the bat guano supports this hypothesis, however, samples were obtained from only two schools.

The striking finding in this study is the concentration of histoplasmin positive children in the urban zone of the community. The shape of the age-prevalence curve for urban children suggests that there has not been a recent point source epidemic of histoplasmosis, but rather a continuing low level of infection. Few children from rural areas show evidence of contact with the fungus until they reach 12 years of age. After 12 years of age, they are much more likely to develop a positive histoplasmin skin test. The younger rural children attend schools in the neighborhoods and spend little time outside their own *barrios*. The older rural children go to high school in the *pueblo* and are in the urban areas for relatively long periods of time. This is associated with a rising slope of the age-prevalence curve in rural children after age 12, and these findings suggest that the urban area is the major focus of infection.

The isolation of *H. capsulatum* from one of ten chicken pens sampled may have important implications. It is a common practice for families in Cayey to keep a

few chickens in their yards. If 10 percent of such chicken habitats harbor *H. Capsulatum*, the high prevalence of infection in the community should be expected. To our knowledge, this is the first time that *H. capsulatum* has been recovered from chicken habitats in Puerto Rico and should be investigated further.

High prevalence of histoplasmin sensitivity in other similar sized communities in the continental United States have been correlated with characteristics of the soil (11) and with proximity to construction sites at bird roosts (12, 13). In this municipality, the soil type varies little throughout the community (14), and there are no large roosts of birds. The altitude and climatic conditions of the *pueblo* are not different from those of the eastern rural area of the municipality and thus cannot explain the differences in prevalence.

Summary

We investigated the patterns of histoplasmin sensitivity among public schoolchildren in an inland community of Puerto Rico and observed a concentration of histoplasmin positives among urban children as compared to the rural children. Exposure to bats in the home, in the school, or in caves did not explain the higher rates of histoplasmin sensitivity in urban children. *Histoplasma capsulatum* was not recovered from bat guano in two schools, but the fungus was recovered from soil of one of 10 chicken pens tested. The importance of chicken habitats in the epidemiology of histoplasmosis in Cayey and Puerto Rico will have to be determined by further studies.

Resumen

Investigamos los patrones de sensibilidad a Histoplasmina entre niños de escuela pública en una comunidad regional de Puerto Rico y observamos una concentración de positivos a Histoplasmina entre niños urbanos, en comparación con niños rurales. La exposición a murciélagos en el hogar, la escuela, o en cuevas, no explicó las proporciones más altas de sensibilidad a Histoplasmina en niños urbanos. No se recuperó *Histoplasma capsulatum* del guano de murciélagos en dos escuelas, pero el hongo se encontró en la tierra de uno de 10 corrales de pollos examinados. La importancia de los criaderos de pollos en la epidemiología de Histoplasmosis en Cayey y Puerto Rico tendrá que ser determinada por medio de más estudios.

Acknowledgments

We gratefully acknowledge the assistance of Mr. Barlow Rivera, health educator in Cayey; Virginia Cartagena, superintendent of schools, Cayey; Dr. Jaime Vidal, director of the Cayey Regional Health Center; and other personnel of the Puerto Rico Department of Education and Department of Health.

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EL TRASPLANTE RENAL EN EL TRATAMIENTO DE LA NEFROPATÍA DIABÉTICA

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A pesar de que el trasplante renal ya se considera como tratamiento adecuado para la insuficiencia renal terminal, no ha sido hasta muy recientemente que esta modalidad se ha considerado como tratamiento de la nefropatía diabética (1-5). De hecho, solo 43 de los 10,000 trasplantes reportados hasta abril de 1972 en el Registro Nacional de Trasplantes eran pacientes diabéticos. La severidad y el curso tan rápido de esta enfermedad hace a estos pacientes candidatos pobres para la diálisis y trasplante. En la Universidad de Minnesota, pacientes diabéticos se han trasplantado como parte de un proyecto especial. Los resultados preliminares de este estudio fueron sorprendentemente mejores que lo esperado, y estimularon un análisis más completo de la evolución natural de esta enfermedad después del trasplante (3-6). El presente estudio fue diseñado originalmente para a) determinar la respuesta general del paciente diabético al trasplante, b) evaluar los factores pertinentes en pacientes de alto riesgo, c) precisar el manejo del diabético trasplantado, d) determinar las complicaciones secundarias y la recurrencia de la enfermedad.

Pacientes y Métodos

De junio de 1969 a septiembre de 1972, 34 pacientes con diabetes mellitus y nefropatía secundaria en etapa de insuficiencia renal terminal, fueron trasplantados en la Universidad de Minnesota. No se utilizaron criterios específicos para su admisión al programa pero pacientes mayores de 60 años, o con múltiples complicaciones incluyendo antecedentes de infarto, o con enfermedad vascular periférica avanzada no se consideraron como candidatos.

Como parte de su evaluación (7), se practicó un examen completo de vías urinarias incluyendo un cistoureterograma, un estudio de fondo de ojo, agudeza visual, y electrocardiogramas seriados. El paciente se comenzó en diálisis y después de un período preliminar de espera se le practicó nefrectomía bilateral y esplenectomía. La técnica del tras-

plante del riñón ha sido descrita anteriormente (8). La inmunosupresión post-operatoria fue la rutinaria para otros pacientes no diabéticos (8). En aquellos pacientes con sobrevida prolongada se efectuó una curva de tolerancia de glucosa, agudeza visual, electromiograma, y electrocardiograma cada tres meses, y biopsia renal anualmente.

Como grupo control se seleccionaron 40 pacientes no diabéticos trasplantados en el mismo período de tiempo. Se escogieron a base del tipo de riñón trasplantado (cadáver de familiar), edad, sexo, y tiempo aproximado del trasplante. En ambos grupos se compararon las complicaciones relacionadas al acto quirúrgico, la sobrevida, la causa de muerte, y la evolución general en diálisis y trasplante.

Resultados

Data general: Treinta y un pacientes fueron seguidos por más de 3 meses, y 24 estaban vivos, en buenas condiciones, y con función renal normal después de este plazo (ver Fig. 1). Veintitrés de estos 31 pacientes recibieron el primer trasplante renal de un familiar; 16 de éstos se encuentran en buenas condiciones; 14 con el riñón original; 1 con un segundo trasplante; y otro en diálisis. Ocho pacientes recibieron el primer tras-

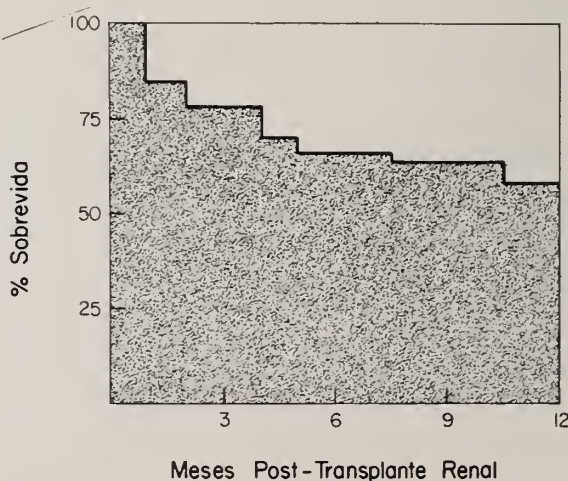


Figura 1

Del Departamento de Cirugía de la Universidad de Minnesota, Minneapolis, Minnesota 55455.

Parcialmente presentado en el IV Congreso Internacional de Trasplante, San Francisco, California, Septiembre, 1972.

TABLA I: CAUSAS DE MUERTE

	34 Diabéticos	40 No-diabéticos Control
Infeción	1/34 (3 por ciento)	1/40 (2.5 por ciento)
Infarto de Miocardio	3/34 (9 por ciento)	0/40 (0 por ciento)
ACV *	1/34 (3 por ciento)	1/40 (2.5 por ciento)
Otros	2/34 (6 por ciento)	0/40 (0 por ciento)
Total -	7/34 (21 por ciento)	2/40 (5 por ciento)

* - Accidente Cerebrovascular.

plante de riñón de cadáver; 6 de éstos en buenas condiciones; 5 con el primer trasplante, y uno con el segundo. Once de los 34 trasplantes fracasaron. Siete pacientes murieron y 4 sobrevivieron la pérdida del riñón.

La Tabla I muestra las causas de muerte. En esta tabla se ve la alta proporción de muertes cardíacas en relación al grupo control. Para evaluar el infarto del miocardio como causa de muerte se revisaron todos los electrocardiogramas en los pacientes diabéticos antes y después del trasplante. Trece de los 31 pacientes mostraron electrocardiogramas normales. Dos mostraron cambios compatibles con infarto previo, 2 con defectos de conducción, 2 de hipertrofia ventricular izquierda y cambios inespecíficos de ST. De los 3 pacientes muertos por infarto de miocardio, 1 tenía un electrocardiograma previo con infarto antiguo, otro con hipertrofia ventricular izquierda, y el último normal.

Complicaciones adicionales: La Tabla II muestra la alta frecuencia de complicaciones del grupo. Específicamente se debe notar la alta incidencia de complicaciones urológicas en este grupo en comparación con los pacientes no diabéticos, y con el grupo total de trasplantes.

Uno de los 34 pacientes desarrolló necrosis de los dedos de la mano antes, y 3 la desarrollaron después del trasplante. En todos los casos ocurrió en la extremidad que poseía la fístula arteriovenosa para diálisis. Tres de estos pacientes tenían calcificaciones vasculares obvias al momento de construir la fístula. La necrosis varió desde áreas isquémicas pequeñas en la punta del dedo índice hasta gangrena franca de dos falanges.

El tratamiento en estos casos lo fue el debridamiento o la amputación.

El manejo de la diabetes en términos generales no fue difícil. Generalmente se observó que los requisitos de insulina disminuyeron con la insuficiencia renal y aun más después de la nefrectomía bilateral. Después del trasplante observamos en la mayoría de los casos un aumento relativamente significativo en las demandas de insulina. No observamos episodio de cetoacidosis después del trasplante en ningún paciente.

Neuropatías: Todos los pacientes mostraron evidencia de neuropatía periférica en el electromiograma antes del trasplante. En electromiogramas seriados obtenidos durante diálisis se pudo observar un cambio progresivo en la degeneración nerviosa. Después del trasplante se observó estabilización de estos cambios en los electromiogramas post-operatorios. En ninguno se encontró mejoría significativa, pero tampoco se encontró progresión de la neuropatía.

Seis pacientes presentaron con neuropatía visceral (gastroenteropatía) antes del trasplante, manifestada como dolores abdominales recurrentes y diarreas. Cinco de los 6 pacientes mejoraron notablemente después del trasplante, disminuyendo los dolores y desapareciendo la diarrea. Un paciente no mostró mejoría ninguna y persistió con diarrea hasta el momento de su muerte.

Todos los pacientes diabéticos mostraron cambios visuales del tipo de disminución en la agudeza visual. Cuarenta por ciento de estos pacientes mostraban una visión corregida de 20/80 en el mejor ojo. Aunque los cambios visuales fueron progresivos, la mayor pérdida de visión ocurrió durante el año antes del trasplante. Después del trasplante no se vió mejoría alguna de las oculopatías, pero tampoco vimos deterioro visual después del trasplante. Esto es hasta un seguimiento de 3 años después del trasplante.

Patología: De 1 a 3 años post-trasplante no se ha observado recurrencia clínica o de laboratorio de la nefropatía diabética en el riñón trasplantado. Ocho biopsias renales han sido examinadas después de 1 año, 2 después de 2 años, y 1 a los 3 años. Estas han sido interpretadas por 2 grupos diferentes de patólogos, como compatibles con cambios mínimos de rechazo, pero sin ninguna evidencia de nefropatía.

Rehabilitación: De los 23 pacientes con función renal normal, 19 están completamente rehabilitados, 2 parcialmente, y 2 sin ninguna rehabilitación. Se

TABLA II: COMPLICACIONES ADICIONALES

	34 Diabéticos	40 No-diabéticos Control	Grupo Total de Trasplantes
Trombosis de la Arteria Renal	1/34	0/40	2/265
Ruptura Ureteral	3/34	0/40	4/265
Ruptura de la Cistostomía	2/34	0/40	2/265
Edema Pulmonar	3/34	0/40	13/265
Total	9/34	0/40	8/265

entiende por rehabilitación completa como retorno a las actividades sociales, ocupacionales, y del hogar que mantenían estos pacientes antes de desarrollar la insuficiencia renal terminal.

Discusión

Los resultados presentados dan peso a los conceptos recientes de que el trasplante renal en la nefropatía diabética puede dar mejores resultados que con hemodiálisis (2, 9-12). La diabetes se controla fácilmente no obstante a los esteroides usados. Este hecho se debe a que las restricciones de dieta y de líquidos son más liberales y hacen posible un mejor control de carbohidratos. La tasa alta de rehabilitación probablemente obedece a la facilidad del control de la diabetes y a una estabilización de la neuropatía y retinopatías previamente encontradas.

Como corolario interesante de este estudio tenemos las observaciones con respecto a la neuropatía periférica y la retinopatía. A pesar de que no se encontró mejoría alguna en los electromiogramas o en los estudios de agudeza visual, creemos que es significativo el hecho de que se detuvo la degeneración progresiva, sistemática y marcada que estaba ocurriendo antes del trasplante. Lo mismo podemos decir de la gastroenteropatía. En este último caso no tan solo encontramos arresto de la sintomatología sino aún una mejoría. Los resultados en estas 3 áreas sugieren que algunos de los sín-

tomos de diabetes avanzada pueden ser debidos a la uremia. Factores adicionales por supuesto lo serían la hipertensión y la misma diabetes. De esto podemos quizás sugerir que sea más conveniente trasplantar al diabético antes de que la uremia sea tan severa. Quizá sea posible el determinar así si se puede evitar el avance de la retinopatía y de la neuropatía periférica.

Los cambios en los requisitos de insulina son interesantes. Se ha encontrado en pacientes urémicos no-diabéticos evidencia de tolerancia pobre a los carbohidratos. Esto se conoce como pseudo-diabetes azotémica (13). Como mecanismo se ha propuesto que el aumento de resistencia (o la disminución de sensibilidad de los tejidos) a la acción de la insulina o incluso la disminución en el almacenamiento hepático de glucosa pueden ser las causas de esta anomalía (14, 15). Por otro lado, la hemodiálisis crónica generalmente corrige esta deficiencia (16). En pacientes diabéticos con función renal deficiente se ha observado una disminución en la degradación de insulina y un aumento notable en los requerimientos de insulina después del trasplante (17). Esos resultados coinciden con el hecho de que un riñón normal metaboliza la insulina disminuyendo su vida media (18).

A pesar de estos hallazgos, encontramos una alta incidencia de complicaciones urinarias, y una mortalidad 2 veces más alta que en los pacientes no diabéticos. Un gran número de estas muertes es secundaria a los problemas cardiovasculares. No obstante, la evaluación pre-operatoria cardíaca no da indicios de poder predecir

futuros problemas vasculares.

Podemos explicar de varias maneras la alta incidencia de complicaciones urinarias. La rotura de la cistostomía parece ocurrir durante la diuresis osmótica que habitualmente se observa en el período post-operatorio inmediato. Si la sonda intravesical se remueve al tercer día como se hace de rutina en el paciente no diabético, la vejiga puede sobre-distenderse. Este aumento de tensión combinado con la cicatrización deficiente en el diabético pueden contribuir a su rotura. Tratando de evitar esta complicación dejamos en la mayoría de los diabéticos la sonda por algunos días adicionales (2, 6) hasta que el proceso de cicatrización esté más avanzado y la glucosuria controlada (3).

En 10 por ciento de los pacientes diabéticos observamos rotura ureteral. En 2 pacientes se observó necrosis total del uréter de 2 a 8 semanas después del trasplante. Podemos postular que en estos casos, con enfermedad vascular avanzada, el uréter no se revasculariza de los tejidos adyacentes como suele ocurrir en los no diabéticos y como consecuencia desarrolla necrosis ureteral (3).

En conclusión creemos que la data obtenida del estudio de este grupo de pacientes nos muestra que a pesar de ser un grupo con mortalidad y con complicaciones más altas que los pacientes no trasplantados, ofrece una serie de posibilidades terapéuticas anteriormente no presentadas a este grupo de pacientes. Muestra además que algunas de las complicaciones terminales de los diabéticos pueden ser debidas a la uremia y no tan solo a la diabetes. Estudios en el futuro podrán ayudarnos a delinear las indicaciones específicas para el trasplante en este sub-grupo, mediante la determinación de la incidencia de complicaciones, recurrencia de la nefropatía diabética y la fisiopatología de este proceso.

Resumen

Hemos presentado 34 pacientes diabéticos con enfermedad renal terminal que recibieron trasplantes de riñón. Analizando el curso natural de la enfermedad y de las complicaciones, vemos que este grupo de trasplantes muestra una incidencia alta de complicaciones urológicas y una mortalidad por lo menos dos veces mayor que la del grupo control. Sin embargo es también evidente que estos pacientes muestran una mejor evolu-

ción que los pacientes sometidos a hemodiálisis crónica. Hubo mejora de la gastroenteropatía y un arresto de la progresión de la neuropatía y de la retinopatía previa. Fue notable la rehabilitación tan adecuada que hubo en este grupo. Esto constituye un estímulo para la utilización del trasplante renal en estos pacientes.

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LA REHABILITACION DEL ENFERMO CARDIACO

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El tratamiento de los enfermos cardíacos sólo es exitoso si el programa de rehabilitación a que se les someta es adecuado. Muchas unidades importantes dedicadas al cuidado cardíaco hacen que sus pacientes continúen viviendo pero los convierten en lisiados cardíacos para el resto de sus vidas. El fallo está en que no logran quitar al paciente el miedo a incorporarse a la vida activa después de su enfermedad cardíaca. Aunque ellos tratan los infartos de miocardio con éxito y heroicamente, no preparan al ser humano, sin embargo, a vivir una vida lo más normal posible dentro de los límites que le impone su enfermedad. Esta puede ser, en breves palabras, la definición de la medicina de rehabilitación, tan ciertas para los enfermos cardíacos como cualquier otra enfermedad del cuerpo o de la mente.

La aplicación de los principios generales de la medicina de rehabilitación al cuidado total del paciente cardíaco comienza tan pronto como es admitido en la unidad cuidados intensivos cardíacos, y no termina hasta que no se le integra con éxito en el seno familiar y en el servicio a su comunidad. En muchos casos esto puede no ser factible. Pero en la medida de lo posible el médico, ayudado por el equipo de rehabilitación, habrá de preparar al paciente para que lleve una vida lo más productiva posible.

Una discusión a fondo sobre estos principios nos llevaría mucho más tiempo que el que tenemos asignado para la presentación de esta conferencia, pero pueden consultarse varios textos médicos bien documentados al respecto señalados en la bibliografía (1, 2, 3). Esta disertación tratará sobre la aplicación de ciertos procedimientos de la medicina física en la unidad del cuidado cardíaco intensivo al poco tiempo de ser admitido el enfermo afectado. Están fundados en sólidas premisas fisiológicas que no aumentarán la carga al funcionamiento del corazón ni producirán mayor tensión o esfuerzo. El pensamiento básico de este programa es prevenir al paciente para que no se convierta

en un lisiado cardíaco, sometiéndolo para ello a ciertas actividades tempranas y apropiadas.

Postura

Posiblemente el primer cambio en la rutina aceptada sobre el cuidado postcoronario surgió en 1950 a consecuencia de una publicación de los experimentos de Benton *et al* (4). Estos demostraron que el paciente cardíaco que era sacado de su cama para sentarlo en el vacío usaba considerablemente menos oxígeno que el que usaba una vacinilla dentro de la cama. Levine y Lown (5) recomendaban en 1962 el uso de un sillón con un espaldar alto como la posición óptima para proteger el corazón en la fase aguda de infarto de miocardio, a menos que la tensión arterial fuera inestable. Kottle (6) dio más importancia al uso de esta posición y demostró que el trabajo del corazón y las exigencias del metabolismo en ciertas posiciones y las actividades manuales eran menores estando el enfermo sentado con los pies colgando hacia abajo que estando hacia arriba. Aún, a causa de la costumbre, la mayoría de los enfermos convalecen de la trombosis coronaria acostados de espalda la mayoría del tiempo.

Requisitos metabólicos

En vez de permitir que el enfermo se preocupe por sus síntomas, el médico prescribe un programa de actividades físicas basadas en ya conocidos gastos de energía o exigencias del metabolismo.

Estos han sido analizados por Passmore y Durnin (7), Gordon (8) y Quiggle (9). No hay reglas prefijadas acerca de la prescripción de un programa de actividad médica. No obstante, es lógico comenzar por un nivel de metabolismo básico e ir aumentando gradualmente la cantidad de esfuerzo, si no surgen complicaciones, utilizando actividades familiares en una escala graduada. Debemos este enfoque a Karpowitch y sus colegas (10), que en 1946 encontraron que los soldados que estaban recuperándose de fiebre reumática aguda eran capaces de someterse a un programa completo de reacondiciona-

miento en 16.2 días, en vez de 77.3 días, sin empeorar la lesión cardíaca, después de haberlos iniciado en un programa supervisado de ejercicios progresivos una vez dominada la actividad reumática patológica.

Este recomendable programa se inició en el hospital de Santa María en Minneapolis, Minnesota, EE.UU. (11, 12), al cual debe mucho este servidor. Sería sabio determinar los valores metabólicos fundamentales de las actividades características en sus respectivas comunidades con el fin de presentar a sus pacientes un programa más familiar. Lo importante es reconocer que hay limitación de la actividad física a causa de su enfermedad cardíaca, pero dentro de esta limitación hay mucho aún que se puede hacer. Desafortunadamente, algunos pacientes no quieren aceptar este hecho.

Este impedimento emocional puede dificultar la tarea del médico y de su equipo, el cual tiene que motivar al paciente para que acepte y continúe el programa de actividades graduadas. Este procedimiento no sólo creará condiciones óptimas fisiológicas para cicatrizar el miocardio afectado, sino que también contrarrestará los efectos perniciosos, mentales y físicos, que se seguirían si el enfermo permaneciera en cama.

Este programa evaluará además la tolerancia que tiene el paciente para aumentar los niveles del trabajo cardíaco, y lo instruirá acerca de su enfermedad durante su período de convalecencia. En un período aproximado de tres semanas él habrá pasado de una completa permanencia en cama a un cuidado total de su higiene personal, trabajando en actividades duras en terapia ocupacional, subiendo escaleras y haciendo 16 minutos de ejercicios calisténicos dos veces al día. Es razonable esperar que la persona que sigue este programa no acabará siendo un enfermo cardíaco, sino un ciudadano útil.

El Programa

El programa está dividido en tres etapas: aguda, subaguda y convaleciente. Comienza al quinto día de su ingreso o tan pronto haya sido estabilizada su enfermedad. Para este tiempo el índice de mortalidad ha bajado mucho. La etapa subaguda comienza el décimo día después de su ingreso, y la convaleciente el décimoquinto día.

El paciente es observado continuamente por si muestra señales adversas. Específicamente después de cada etapa se hace un estudio que consiste en un electrocardiograma continuado para observar posibles

cambios mientras el paciente hace sus ejercicios y demás actividades, determinando de este modo si el paciente puede pasar a la próxima etapa. Si se queja de fatiga excesiva o de dolores o de incapacidad para continuar, se descontinúa el examen. También se deja de hacer el examen si la terapeuta observa señales de intolerancia tales como excesivo sudor, respiración fuerte o intensa fatiga emocional. También se descontinúa si el electrocardiograma muestra extrasístoles ventriculares prematuras, arritmia, depresión de las ondas ST o taquicardia ventricular anormal.

Rehabilitación cardíaca. Etapa aguda.

1. Comienza a partir del quinto día después del ingreso, condición estabilizada.
2. Actividades: gasto de energía, de 1 a 1.5 veces el metabolismo básico. Trabajo sentado en la cama con los pies colgando o preferiblemente en una silla con el espaldar recto al lado de la cama.
3. Actividades de la vida diaria: darse vuelta en la cama, alimentarse por sí mismo, usar un cepillo de dientes eléctrico, terminar el baño y usar un servicio al lado de la cama.
4. Trabajar un máximo de 20 minutos dos veces al día.
5. Desde el quinto día hasta el décimo.
6. Prueba monitoria electrocardiográfica.

Rehabilitación cardíaca. Etapa subaguda.

1. Comienza el décimo día a partir de la admisión.
2. Actividades: gasto de energía de 1.5 a 2.5 veces el metabolismo básico. Asistir a la sección de terapia ocupacional en una silla de ruedas.
3. Actividades de la vida diaria: Higiene personal, lavarse la cara, limpiarse los dientes, peinarse, bañarse con una esponja, afeitarse.
4. Trabajar en grupos de 20 a 30 minutos dos veces al día.
5. Ejercicios calisténicos: comenzar gradualmente ejercicios calisténicos de 1.2 a 2.3 veces el metabolismo básico, ir aumentando de 1 a 8 minutos en una posición sentada.
6. Desde el día décimo hasta el décimoquinto a partir de su ingreso.
7. Prueba monitoria electrocardiográfica.

Rehabilitación cardíaca. Etapa convaleciente.

1. Comienza el décimoquinto día a partir de la admisión.
2. Gasto de energía de 2.5 a 6.0 veces el metabolismo básico. Va caminando a la sección de terapia ocupacional.
3. Actividades de la vida diaria: vestirse, todas las actividades relacionadas con el baño, caminar en la habitación y en el corredor, ducharse, subir escaleras.
4. Trabajar períodos largos, de 30 a 60 minutos dos veces al día, actividades con ambos brazos, de 5 a 20 minutos en una bicicleta de ejercicios, actividades que robustezcan la resistencia.
5. Ejercicios calisténicos: de 2.6 a 4.1 veces el metabolismo básico, aumentándolos gradualmente de 8 a 16 minutos dos veces al día, de pie.
6. Desde el día décimoquinto hasta ser dado de alta.
7. Prueba monitoria electrocardiográfica.

Alta

Un repaso de las actividades y de sus exigencias de energía nos mostrarán que el paciente está capacitado para mantener su higiene personal y para hacer la mayoría de las actividades sedentarias del trabajo al final de la segunda semana del programa. A la hora de darle de alta el paciente es instruido acerca de las actividades que él es capaz de hacer en su casa. Se le provee de un librito de actividades graduadas en el que se describen los niveles de energía de diversas actividades funcionales y recreacionales y de ejercicios calisténicos.

El ataque cardíaco. El factor riesgo.

Después del infarto de miocardio, el pronóstico de una larga vida está en total dependencia de los factores de riesgo que se eliminen y de que en lo sucesivo se mantenga un rígido programa de actividad física. Aunque estaría fuera de los límites de esta conferencia someter a una honda discusión el riesgo que existe de recaer en un ataque cardíaco, sin embargo un médico competente debe discutirlo con su paciente antes de darle de alta. Del mismo modo, el consejero vocacional debe tener en cuenta dichos factores a la hora de preparar o colocar al paciente nuevamente en su antiguo trabajo o en un nuevo empleo.

He aquí una lista de estos factores:

1. El colesterol del suero sanguíneo debe mantenerse a menos de 160 mgms por ciento mediante una

dieta apropiada.

2. Se debe eliminar el cigarrillo.
3. La tensión arterial alta debe reducirse a menos de 140 mms. Hg. de sistole y de 90 mms. Hg. de diástole.
4. La obesidad debe permanecer por debajo del peso normal.
5. Se debe evitar el esfuerzo mental tanto en el trabajo como en los juegos.
6. Se deben controlar los triglicéridos del suero mediante una dieta de grasa poliinsaturada. Se usará aceite de maíz y no de coco o grasa animal.
7. Se debe evitar la inactividad física.
8. Herencia.
9. ECG normal.
10. Diabetes mellitus.
11. Hipotiroidismo.
12. Deben evitarse las condiciones climáticas extremas: ambientes demasiado calurosos, demasiado fríos y demasiado húmedos.

Resumen

Hemos descrito un programa de rehabilitación del enfermo cardíaco. Este programa está basado en sólidos principios fisiológicos que no afectarán perjudicialmente al corazón enfermo. Hemos presentado un programa graduado de actividades físicas de terapia ocupacional y ejercicios calisténicos, que generalmente suele comenzar a los cinco días de ser ingresado el enfermo en la unidad de cuidados cardíacos intensivos y que continúa hasta que el paciente es dado de alta. Estas actividades reducen los efectos adversos que produce la permanencia en cama e informa al paciente sobre su enfermedad y sobre cómo evaluar su tolerancia a la hora de aumentar el nivel del trabajo del corazón.

Summary

A program of rehabilitation of the coronary patient has been described. This program is based on solid physiological principles that will not adversely affect the damaged heart. A graded physical activity program of occupational therapy and calisthenics is presented that usually begins five days after admission to the acute coronary care unit and continues until the patient is discharged. These activities minimize the deconditioning effects of bed rest and teach the patient about his disease in addition to evaluating his tolerance for in-

creasing levels of cardiac work.

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— THREE PHYSICIANS —

Great men have always accompanied medicine and surgery, who for one reason or another, surpass their contemporaries and make history. During my lifetime I was privileged by having known many great medical men, but I wish to discuss three of them, who were my teachers and my friends, and whose work still portrays the greatness which survives them.

In 1946 I was discharged from the Army of the United States, and started my residency in Obstetrics and Gynecology at the Millard Fillmore Hospital in Buffalo, New York, under Dr. Lewis F. McLean. One night, an elderly general practitioner was caring for a patient in labor, whom I had seen, whose progress in labor I had estimated to be adequate. Her doctor decided to call in a consultant. This doctor performed a cesarean section and I was his surgical assistant. When we were in the locker room changing clothes I asked, "Dr. Potter, can I say something?" "Yes, you can", he replied. By that time the room was silent, for no one ever spoke to Dr. Irving W. Potter unless he initiated the conversation. "Dr. Potter, I don't agree with you, I don't think this lady needed a cesarean section." Someone in the room said, "Oh, Oh, now you've had it!" Dr. Potter stopped cold, looked at me, embraced me and said "Puerto Rico, I like you, I don't like all these yes men we have around here."

I got to know Dr. Potter during my residency. He was in his 80's at that time and was famous for his version and extraction for complicated deliveries. During the 1920's and 1930's, the majority of deliveries were performed at home and hospital facilities for obstetrics were limited. There were no blood banks, no antibiotics and poor anesthesia and this type of delivery was a real blessing. When Dr. Potter arrived for a consultation at a home delivery, no matter how complicated the situation, he would assume all the responsibility for the outcome and thus let a great many of the practitioners literally off the hook. He is the only man, other than a politician, whom I have seen enter a medical conference in progress and cause the speaker to stop, everyone to rise and wait for him to be seated before continuing the conference. His patients were grateful to him forever, since he often delivered 3 to 4 generations in a family. Dr. Irving W. Potter and his son Milton are now gone, but his three grandsons are obstetricians and gynecologists and they carry on in their field. Version and extraction in Dr. Potter's hands was a life saver, but this procedure is rarely done now, and then, usually for the delivery of a second twin. It is a procedure that very few obstetricians can perform adequately these days.

In 1951 after having served my second stint in the Army, I was appointed gynecologist at the Liga Puertorriqueña Contra el Cáncer. The medical director and president of the institution was Dr. Isaac González Martínez, the founder and father of the hospital.

Dr. González Martínez was 80 years old when I met him. During his lifetime, he had become one of the foremost doctors in Puerto Rico. At the age of 68, in 1939, when most doctors have retired from active practice, Dr. González Martínez and a small group of collaborators founded the Liga Puertorriqueña Contra el Cáncer. Dr. González was dedicated to his profession, his staff and his patients, and by 1951 the hospital was well known for its excellent work in North and South America. I learned many aspects about cancer from this fine gentleman. He was a perpetual student and teacher. At the time of his death at 84 years of age, he had been reading a book on new treatments for cancer.

During my work at the Cancer Hospital I met and worked with another fine physician, gentleman, and teacher: Dr. A. Oliveras-Guerra. Cofounder of the Liga Puertorriqueña Contra el Cáncer, he was chief of surgery at the hospital. He had been president of the Puerto Rico Medical Association for two years, president of the Puerto Rico Chapter of the American Cancer Society, and held many positions in medical and civic societies.

Dr. Oliveras was another saver of lives. He was frequently called in for consultation in surgical patients with all degrees of complications, and he was able to cure the great majority of these. He was an expert in giving local and regional anesthesia to all parts of the body, forcing visiting surgeons to admire his accuracy. He developed the Department of Surgery at the Cancer Hospital, and was the second medical director of the institution, a position he held to his death at 71 years of age. During his last few years he dedicated part of his infrequent free hours to painting. The Dr. A. Oliveras-Guerra diagnostic and treatment center at Sabana Llana honors his memory.

It is interesting to note that these three men were (1) mostly self-made men who were very proficient in their specialties, (2) developed at a time when there were only some or very few specialty residencies such as we have today and (3) worked all their lives and did not retire until our Lord claimed them. These three magnificent physicians I knew and loved dearly. They were my friends as well as my teachers, and their work still continues. It is fitting that they should be remembered.

Randolph J. McConnie, MD

Presidential Address - Puerto Rico Chapter American College of Surgeons - February 22, 1972.

GLUCOSE AND THE HEART

When a few years ago we came out of the experimental laboratories of Sodi-Pallares at the Institute of Cardiology in Mexico City, after witnessing how an intravenous infusion of glucose, insulin and potassium chloride (GIK) would markedly minimize cardiac necrosis in dogs after coronary artery ligation, we had to admit that there was "*something to the procedure.*" Today after much study, reading, observation and experience we can definitely state that there is *a lot* back of it.

The experiment was a scrap of evidence. There remained many features unexplained. Supporting evidence has been brought to light both by clinical experience and by laboratory investigations.

Last September in Madrid at the Sixth European Congress of Cardiology we heard lectures on the subject by Prof. Andree Laboritz from France, Taylor from England and Sodi-Pallares from Mexico.

Based on what we heard and our own personal experience during the last few years our ideas about the efficacy and safety of the combination of glucose, insulin and potassium chloride (GIK) have been firmly established.

We can describe the method as a non-invasive, non-aggressive form of treatment which has added sense and safety not only to the treatment of acute myocardial infarction but to that of congestive heart failure as well.

I shall not dwell into the intricacies of myocardial biology, sarcolemma, ionic environment, cellular metabolism, lactate and pentose, energy production, glycolysis, phosphofructokinase and other enzymes, adenosine, mitochondria, etc.

Those and other aspects of polarization and depolarization have been studied and reported by Laboritz, Majid, Taylor and collaborators (1) as well as by Sodi-Pallares and his group.

Potassium:

This is what Hemdon Jr. and Wagner had to say about potassium in Hurst and Logue's book "The Heart".

Hyperkalemia lowers the myocardial resting membrane potential and decreases the upstroke velocity and duration of the myocardial action potential.

Electrocardiographically tall, narrow, symmetric peaked T waves may appear at a potassium serum concentration of 5.5. mEq/liter.

The electrocardiographic changes of hyperkalemia are potentiated by hypocalcemia and hyponatremia.

Hyperkalemia decreases the rate of spontaneous diastolic depolarization in all pacemaker fibers; ectopic pacemakers are even more sensitive than the SA node to this effect of hyperkalemia. This explains the anti-arrhythmic effect of hyperkalemia, which is not specific for digitalis induced arrhythmias.

Hypokalemia impairs myocardial contractility, increases the duration of the myocardial action potential, and slightly increases the resting membrane potential.

The electrocardiogram may show the following: (1) ST segment depression greater than 0.5 mm., (2) U wave amplitude greater than 1 mm. and U/T wave ratio greater than one in the same lead. These changes begin to occur with serum potassium levels below 3 mEq/liter.

Prominent U waves may be seen also in left ventricular hypertrophy, bradycardia, digitalis therapy, and quinidine therapy.

The History of Polarizing Solution:

The idea of the polarizing solution came out of Laboritz' laboratories, but its practical application came from the laboratories and clinical material of Sodi-Pallares and collaborators.

The heart is an insulin dependent organ. Not so the brain, except, may be, in special circumstances. Glucose needs insulin. The heart needs glucose, magnesium, energy, ATP and potassium.

The classical therapy of myocardial infarction as we practice it to date deals only with the treatment of complications.

What do we treat in the coronary care unit? We treat anoxemia, arrhythmias, heart failure, embolism and shock. But... we have not been treating the infarction itself. The polarizing solution of glucose, insulin and potassium is filling this gap.

We believe that the only drugs essential in the coronary care units are atropine and lidocaine. The first one you should remember, is contraindicated in cases of glaucoma and the other one may induce drowsiness, numbness, confusion, disorientation, euphoria, muscle

twitching, circulatory and respiratory depression and convulsions and death.

The Polarizing Solution: In acute cases we start with 20 percent glucose in water in glass or plastic containers of 1,000 cc each but soon we shift to a 10 percent solution. To each bottle we add 20 units of regular insulin. In diabetic patients the amount of insulin may be increased if necessary.

The amount of potassium chloride added to the solution depends upon the concentration of serum potassium.

When it is less than 4 mEq per liter 60 mEq of KCL is added to the solution. When it is between 4 and 5 mEq, 40 mEq should be added and when serum potassium reaches 5 to 5.5 mEq only 20 mEq of KCL is added and no KCL is added when serum potassium goes above 5.5 mEq per liter.

An important, if not the most important part of the treatment is a diet low in sodium and high in potassium. Sodium intake should be limited to 30Q or 360 mg. daily.

It is important to keep blood glucose between 120 and 150 mg. and serum sodium at about 135 mg. If serum sodium concentration is 145 or more it means that the low sodium diet is not being adhered to by the patient or more specifically by the dietitian.

The venoclysis should be given continuously day and night for a week or two at a rate of 40 drops per minute. The bottle should be shaken every half an hour to prevent the insulin to adhere to the sides of the bottle.

A large vein and special needles should be used to prevent possible extravasation of the irritating fluid and phlebitis.

Other points to remember are the fact that the increase of water in the vascular space inhibits the secretion of aldosterone and that hypertonic glucose solution has a definite diuretic effect through osmotic mechanism.

If the venoclysis can not be kept as long as necessary we can resort to the oral route as follows: At 7:30 a.m. and at 5:30 p.m. we give 10 units of regular insulin subcutaneously and 100 or 150 gms. of glucose dissolved in water or orange juice and two tablets of K-lyte four times a day.

The normal requirement of potassium is 2.5 gm. or 65 mEq daily. The urinary loss is 20 to 60 mEq per day, 5 mEq in feces and 9 mEq in sweat.

A medium size ripe banana supplies 88 calories, 420 mg. of potassium, only 0.5 mg. of sodium, pro-

tein 1.2 gm., fat, largely unsaturated 0.2 gm. and no cholesterol. It is the ideal fruit to give when patients are on a low sodium, high potassium diet. Orange juice which contains 49 mEq. potassium per liter, grapefruit and raisins may prove useful in the dietary regime.

Congestive Heart Failure:

A group of physicians in England have reported on the effect of glucose on the normal and diseased heart (1). Their paper was discussed editorially by The Lancet on December 16, 1972 (2).

From that issue of The Lancet, I copy the following paragraphs:

"Interest is reviving in the possibility that glucose (administered with insulin and potassium) may benefit the diseased heart (1). The concept goes back to at least 1911, when Goulston advocated cane sugar, taken orally, in the therapy of various cardiac disorders because "dextrose is capable of nourishing the heart muscle in a most peculiar and wonderful manner."

"In 1914, Budingen reported that infusion of glucose appeared to improve eight patients, including four with either severe angina pectoris or with what we would now diagnose as myocardial infarction."

"As the role of lipid as a major energy source for the heart became better defined, so investigations on the therapeutic use of glucose as myocardial fuel seemed to slip into the background. On the other hand, a clearer understanding of the control of glycolytic pathway showed that glucose could contribute substantially to the energy requirements of the well-perfused hypoxic or anoxic isolated heart by anaerobic conversion to lactate. Glycolysis in the heart may well be controlled by a feedback system. The activity of the enzyme phosphofructokinase, viewed as a major regulator of glycolysis, is accelerated by an energy deficit in the cell as expressed by breakdown of A.T.P., and intracellular accumulation of breakdown products of A.T.P. Such as A.D.P., A.M.P., and Inorganic phosphate, etc."

The so-called "glucose hypothesis," which suggests that glucose has an important role in the preservation of ischemic myocardium has been supported by evidence that glucose, insulin and potassium (GIK) helps to minimize cardiac necrosis in dogs with experimental coronary artery ligation and to maintain A.T.P. in the infarcted area in baboons."

"In the experiments reported by Taylor (1) and his group both normal people and patients with congestive heart failure had an inotropic response to glucose and insulin, which conclusively rules out a substantial

role for anaerobic energy generated by GIK administration, because the supply of aerobic energy is adequate in normal hearts."

"Another effect of an increased circulating glucose concentration is to raise serum osmolarity, and this up to a point, stimulates left ventricular function. An increased serum osmolarity may also decrease potassium loss from ischemic muscle."

It is stated also in the editorial that "provision of such energy may allow inotropic agents such as digitalis to become more effective" and that "many inotropic agents (presumably including GIK) could act on ill-understood processes in the cell-membrane which control calcium fluxes."

"Patients with congestive heart failure undergo electrolyte changes with the heart-cell retaining sodium and losing potassium."

"In view of the current emphasis on magnesium depletion, thought to happen in about half of patients with chronic congestive heart failure, therapy aimed at combined potassium/magnesium repletion warrants consideration."

We can report at this time that we have observed not only definite beneficial effect in cases of acute myocardial infarction with the early administration of glucose-insulin-potassium solution (GIK), but also in a few patients in the older age group suffering from the so-called refractory cardiac failure or exhibiting marked sensitivity to digitalis glycosides.

GIK works relatively rapidly and has few, if any, side-effects. It is not a panacea for diseases of the heart but we agree with the British and Mexican clinicians and in-

vestigators that it is a safe and simple addition to cardiac therapy.

Summary

We consider the use of polarizing solution made up of glucose in water, regular insulin and potassium chloride (G.I.K.), together with a low sodium diet, a safe and simple addition to cardiac therapy.

It is useful not only in the treatment of acute myocardial infarction, but also in the treatment of the so-called refractory cardiac failure and specially in the elderly patient who shows marked sensitivity to digitalis glycosides.

Resumen

Creemos que el uso de la solución polarizante compuesta de glucosa en agua, insulina regular y cloruro de potasio (G. I. K.), unida a una dieta baja en sodio, es una adición simple e inocua a la terapia cardíaca.

El tratamiento polarizante es útil no sólo en el infarto agudo del miocardio sino también en el tratamiento del llamado fallo cardíaco refractario y especialmente en el enfermo viejo que demuestra marcada sensibilidad a la digital y sus glicósidos.

Ramón M. Suárez, Sr., MD

Ramón M. Suárez, Jr., MD

**ABSTRACTOS DE LOS TRABAJOS PRESENTADOS
EN LA SESION CIENTIFICA DE LA ASAMBLEA
ANUAL DE LA ASOCIACION PUERTORRIQUEÑA
DEL CORAZON EN EL HOTEL CARIBE HILTON
EL 22 DE SEPTIEMBRE DE 1973.**

**La Radioangiocardigrafía en las Cardiopatías
Congénitas**

René Dietrich, MD, Jorge Sánchez, MD, Aldo E. Lanaro, MD, Amalia Martínez Picó, MD. Centro Nuclear de Puerto Rico y Sección de Cardiología Pediátrica, Hospital Universitario, San Juan, Puerto Rico.

La Cámara de Anger y el Tecnecio ^{99m} han creado en la radioangiocardigrafía un método diagnóstico eficaz en las cardiopatías congénitas. Para evaluar su exactitud diagnóstica en los cortocircuitos de izquierda a derecha y de derecha a izquierda se han realizado en el Centro Nuclear de Puerto Rico 50 procedimientos en pacientes de Cardiología Pediátrica del Hospital Universitario. Estos tenían edades entre 2 meses y doce años, 30 niñas y 20 varones con diagnósticos cardiológicos diversos comprobados por cateterismo cardíaco.

Se inyectó 1 a 5 milicuries de tecnecio en una vena superficial y se siguió su curso circulatorio, las imágenes se visualizaron en un osciloscopio, en fotografías y en video tape.

Se discuten las imágenes observadas en cuatro fases del tránsito circulatorio en un grupo de radioangiogramas normales; los anormales se dividieron en dos grupos: Grupo I cortocircuitos de derecha a izquierda con imágenes características en varias fases y Grupo II con cortocircuitos de izquierda a derecha también con imágenes típicas.

Este método es rápido, sencillo y no invasivo para diagnosticar cortocircuitos cardíacos, puede reemplazar al cateterismo cardíaco en 1) casos muy graves para cateterismo, 2) pacientes estudiados repetidamente, 3) casos alérgicos al contraste, 4) como "screening" de posibles cardíacos, 5) cuando no existen facilidades adecuadas de cateterismo y 6) pacientes no hospitalizados. Este estudio demuestra una buena correlación entre la radioangiocardigrafía y el cateterismo cardíaco convencional.

Aneurysms and Fistulas of the Aortic Sinuses

E. Defendini, MD, E. Márquez, MD, R. Brito, MD. Department of Surgery, Thoracic and Cardiovascular Surgery Section,

University Hospital Puerto Rico School of Medicine and Affiliated Hospitals.

Congenital Aneurysms and Fistulas of the Aortic Sinuses are reported rather infrequently in the literature despite the improvement in Surgical management due to the widespread use of Cardiopulmonary bypass.

Four (4) patients with this anomaly have been treated at the University Hospital and affiliated institutions without mortality. They form the basis of this report together with a review of the pathophysiology, clinical picture, complications and surgical management.

The group is asymptomatic although residual murmurs have been detected in two (2) patients.

**Analysis of Electrocardiographic Abnormalities,
other than "Ischemic" ST Depression occurring
during Submaximal Treadmill Exercise Testing**

Esteban Linares Rivera, MD, E. A. Ramírez, MD, MS, FACP, José A. Pereyó, MD. Department of Medicine, Veterans Administration Hospital, San Juan, Puerto Rico.

Several abnormalities other than "Ischemic" ST depression were recorded after graduated treadmill exercise testing, including extrasystoles, post-extrasystolic T wave inversion, intermittent LBBB, intraventricular conduction defect, first degree A-V block, leftward shift of QRS axis, development of tall T wave changes after exercise and low J junction. These abnormalities will be discussed in the light of current concepts and a correlation with coronary arteriography will be made.

Anginal Pain in the Presence of Normal Coronary Arteriographic Findings

José A. Pereyó, MD, Esteban Linares-Rivera, MD, E. A. Ramírez, MD, MS, FACP. Department of Medicine, Veterans Administration Hospital, San Juan, Puerto Rico

Sixty-three patients were studied by selective coronary arteriography in whom coronary artery disease was known or suspected on a clinical basis. The clinical data is analyzed and correlated with the coronary

arteriography findings.

Five patients with positive stress test who had normal arteriograms will be discussed. Three patients with chest pain and abnormal electrocardiograms were found to have incipient idiopathic hypertrophic subaortic stenosis and normal arteriograms. Five patients with atypical chest pain and negative stress test had normal arteriograms.

Left Ventricular Aneurysm with Normal Coronary Arteriogram

José A. Pereyó, MD, Esteban Linares, MD, Elí A. Ramírez, MD, MS. Department of Medicine, Veterans Administration Hospital, San Juan, Puerto Rico.

A 42-year old male came to the hospital with symptoms of congestive heart failure. At age 25 a laminar calcification of the apex of the heart was noted. At that time he was asymptomatic and continued well until age 31 when he received direct blunt trauma to the anterior wall. Electrocardiogram disclosed changes of inferior infarction and lateral wall subepicardial injury. Since then he had recurrent episodes of arrhythmia including paroxysmal ventricular tachycardia. Cardiac catheterization and coronary arteriography revealed elevated left ventricular end diastolic pressure, a calcified apical aneurysm and normal coronary arteries. Ventricular aneurysmectomy was performed and pathologic examination revealed dense fibrous tissue with early calcification. The probable etiology of this process will be discussed.

Symptomatic Obstructive Cardiomyopathy in Children

Héctor L. Rodríguez Fernández, MD, Waldo López, MD, José R. Gómez Alicea, MD, Jorge Valdés, MD. Departments of Pediatrics and Radiology, San Juan Municipal Hospital, San Juan, Puerto Rico.

Hypertrophic obstructive cardiomyopathy, otherwise known as hypertrophic subaortic stenosis, is an illness characterized by onset of symptoms in the second and third decades. Affected patients usually have a heart murmur detected before 10 years of age. Symptoms rarely occur that early, although dyspnea, easy fatigability, and chest pain have occasionally been reported in the first decade. Syncope is a common presenting

sign in adults, but it has not been reported in children.

In August 1972 a 5-year old boy (G.S.L. PRMC No.62-74-25) was referred to our clinic for evaluation of 4 episodes of exertional syncope in the preceding 3 months. On cardiac auscultation there was a 2/6 systolic ejection murmur at the lower left sternal border radiating to the apex. The chest X-ray showed mild cardiomegaly with left ventricular enlargement and normal pulmonary vasculature. The electrocardiogram indicated marked left ventricular hypertrophy with increase in the posterior left ventricular forces and loss of Q waves in the left precordial leads. Cardiac catheterization and left ventricular angiograms demonstrated the typical findings of hypertrophic obstructive cardiomyopathy. The patient has been maintained on oral Propranolol, 5 mg. four times a day, for the past year, and he has remained asymptomatic with activity restricted only for competitive sports.

Our experience suggests that hypertrophic obstructive cardiomyopathy should be considered one of the possible etiologies of syncope in childhood. In addition, long term oral propranolol may be effective in the symptomatic improvement of these children, as has previously been reported in adults.

El Síndrome de Wolf-Parkinson-White en la Edad Pediátrica

Jorge Sánchez, MD, Joaquín Mendoza, MD, Mercedes Vega-Vidal, MD y Amalia Martínez Picó, MD. Sección de Cardiología Pediátrica, Hospital Universitario, San Juan, Puerto Rico.

Se describe un grupo de pacientes con Wolf-Parkinson-White en la edad pediátrica que fueron seguidos por un período de tiempo que varió desde 9 meses hasta más de una década.

Todos ellos tuvieron historial y examen físico completos, radiografías de tórax además de electro, vecto y fonocardiogramas.

El diagnóstico de este síndrome se hizo por un P-R corto, un QRS prolongado y por la presencia de una onda delta.

Se analiza la evolución a largo plazo de estos pacientes, además de la presencia de cardiopatías congénitas asociadas.

También se hace una actualización de la anatomía patológica, la electrofisiología y el tratamiento moderno y se llega a la conclusión de que este síndrome tiene un pronóstico benigno en la edad pediátrica.

Cardiopatías Asociadas con Anomalías Esplénicas Congénitas

Rafael Villavicencio, MD, Felipe Vizcarrondo, MD, y Amalia Martínez Picó, MD. Sección de Cardiología Pediátrica, Hospital Universitario, San Juan, P. R.

Se revisan los ocho casos con anomalías congénitas de bazo en el Departamento de Pediatría del Hospital Universitario durante un período de dos años y medio, y se describen las malformaciones cardíacas y extra-cardíacas relacionadas con esta condición.

Los casos descritos incluyen: ausencia de bazo (2),

hipoesplenía funcional (3); poliesplenía (2), y un caso con bazos accesorios.

Los hallazgos confirman la elevada incidencia de cardiopatías congénitas severas asociadas a malformación del bazo y se discuten en detalle aquellas asociadas con poliesplenía. Esta última condición es menos frecuente que la ausencia anatómica o funcional del bazo y en nuestra experiencia produce anomalías cardíacas y de los grandes vasos que son muy difíciles de distinguir del síndrome de Ivemark.

Se sugiere que se abandone el término de "asplenía" para agrupar todas estas malformaciones y se propone una nueva clasificación de estas entidades.

NOTICIAS

FROM THE AMERICAN COLLEGE OF HOSPITAL ADMINISTRATORS

The major College educational activity of the American College of Hospital Administrators - 17th Congress on Administration - Palmer House, Chicago - February 21-23, 1974.

COURSE IN LARYNGOLOGY AND BRONCHESOPHAGOGY

The Department of Otolaryngology, Abraham Lincoln School of Medicine of the University of Illinois and the Eye and Ear Infirmary of the University of Illinois Hospital, will conduct a continuing education course in Laryngology and Bronchoesophagology March 18 to 23, 1974. The course is limited to twenty physicians and will be under the direction of Paul H. Holinger, M. D. It will be held largely at the Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, and will include visits to a number of other Chicago hospitals. Instruction will be provided by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested physicians will please write directly to the Department of Otolaryngology, Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, Illinois 60612.

ADVANCED CONTINUING EDUCATION WORKSHOP "PLASTIC SURGERY OF THE AGING FACE"

The Department of Otolaryngology, Abraham Lincoln School of Medicine of the University of Illinois (in cooperation with the American Academy of Facial Plastic and Reconstructive Surgery, Inc.) will present a multidisciplinary workshop in facial plastic surgery June 1 through 5, 1974. M. Eugene Tardy, Jr., M. D., is the chairman of the five-day workshop.

The course will provide participants an opportunity to enhance and refine their knowledge and diagnostic skills in analyzing, evaluating and managing patients presenting problems of facial aging. Topics for consideration include blepharoplasty, dermabrasion, facelift, browlift, chemexfoliation, local pedicle flaps and scar camouflage. Live and videotaped television coverage of surgical techniques will be offered in addition to panel discussions by the distinguished local and national faculty members.

Interested physicians should write to the Department of Otolaryngology, Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, Illinois 60612.

REQUEST: Please help locate a copy of the original paper on schistosomiasis in the Western Hemisphere titled: González Martínez, Isaac. 1904. "La Bilharziasis en Puerto Rico". *Tip. Bol. Merc. San Juan, P. R.*, page 32. Communicate with Dr. C. F. Asenjo, Dept. Biochemistry-Nutrition, UPR, School of Medicine.

Your cooperation in this matter will be much appreciated.

CUARTO CONGRESO INTERNACIONAL DE QUEMADURAS - Buenos Aires, Argentina - Del 15 al 21 de septiembre de 1974 - Sheraton Hotel.

Para más información, favor de escribir a: Avenida R. Sáenz Peña 1110, 2do. Piso, Buenos Aires, Argentina.

NOTICE FOR EXPERT WITNESSES

The Forensic Science Foundation is currently conducting a research project the objective of which is to define and evaluate the various services performed by the forensic science profession in the criminal justice process.

If, since 1972, you have given reports or testimony in *criminal* court or elsewhere in the *criminal* justice process as an expert witness for either the prosecution or for the defense, would you mail a card or note to the Forensic Sciences Foundation giving your name, address and area of expertise. The Foundation, in turn, will mail to you a short questionnaire designed to group your type and degree of involvement with other individuals who have similar expertise.

If you know others who should be included in this survey would you call their attention to this appeal for help?

It is emphasized that this is a federally sponsored research project. The results will not identify any individuals. No form of solicitation will result from your participation since all names, addresses and questionnaires will be treated as confidential information.

We urgently need your support and solicit your help!

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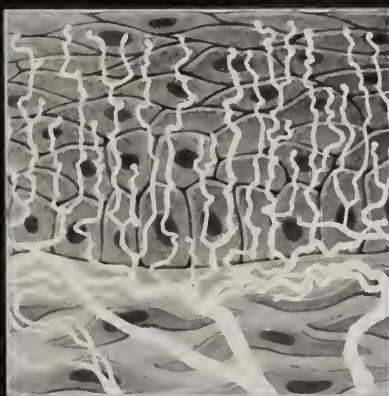
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ARTICULOS APROBADOS A PUBLICARSE EN FUTURAS EDICIONES

1. *Hipertensión: El Riesgo y el Reto — Elí A. Ramírez-Rodríguez, MD*
 2. *The History of the Development of Organized Urology in San Juan, P. R. — W. E. Kittredge, MD*
 3. *Ingestión Diaria de Yodo con la Dieta Habitual de los Habitantes de Puerto Rico — Aldo E. Lanaro, MD, et*
 4. *The Electrocardiogram and Frank Vectorcardiogram in Ebstein's Anomaly — Charles D. Johnson, MD*
 5. *Overcorrected Myopia and Pseudomyopia — Manuel N. Miranda, MD*
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Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

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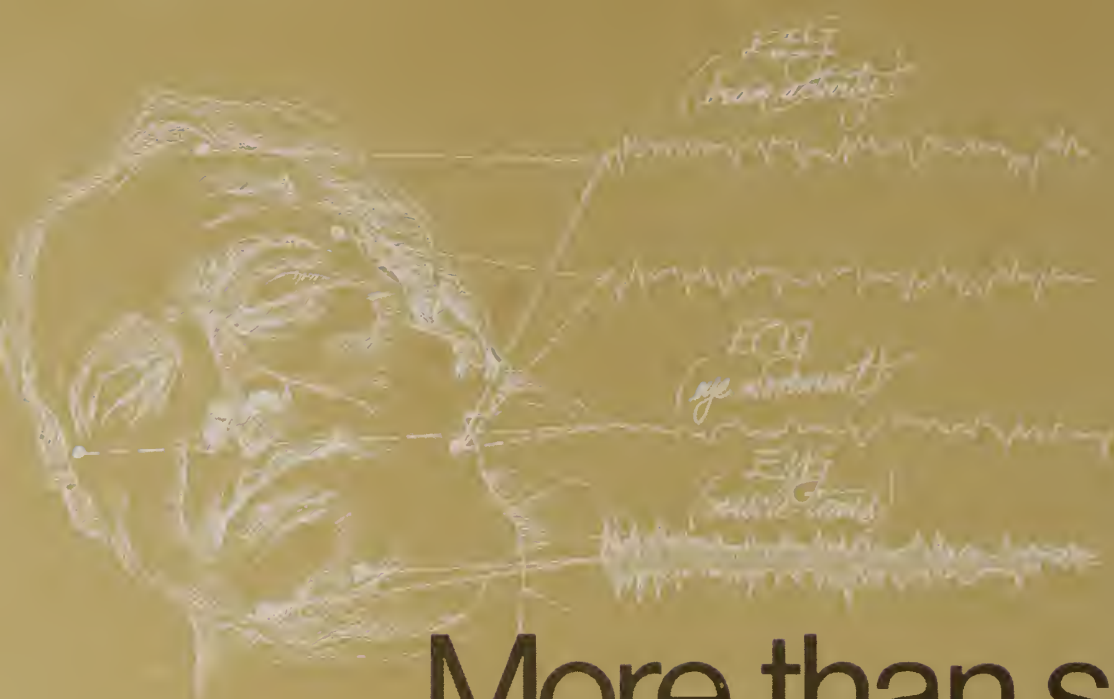
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No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.

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consistency

Dalmane (flurazepam HCl) is a distinctive sleep medication—a benzodiazepine specifically indicated for insomnia. It is not a barbiturate or methaqualone, nor is it related chemically to any other available hypnotic.

When your evaluation of insomnia indicates the need for a sleep medication, consider Dalmane—a single entity nonnarcotic, non-habit-forming agent proved effective and relatively safe for relief of insomnia.

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(flurazepam HCl)

When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage
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One 15-mg capsule *h.s.*—initial dosage for elderly or
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Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening in patients with recurring insomnia or poor sleeping habits, and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



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a partnership for life



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, espe-

cially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests

advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; *Tel-E-Dose®* packages of 1000. *Libritabs®* (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

to help reduce clinically significant anxiety and
thereby help improve patient receptivity

Librium® up to 100 mg daily in
severe anxiety
(chlordiazepoxide HCl)

Please see following page.



Symptom of excessive anxiety:

The patient may have difficulty in accepting medical counsel.

Clinical experience has shown that some unduly anxious patients may tend to deny or minimize their illness and therefore resist seeking

or following medical advice. Through its antianxiety action, adjunctive Librium (chlordiazepoxide HCl) can often calm the emotionally tense pa-

tient, thereby encouraging physician-patient rapport and, on occasion, making it easier for the patient to accept medical counsel.

for relief of excessive anxiety



Librium® 10-mg capsules
(chlordiazepoxide HCl)

Please see reverse side
for summary of product information.

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calle del cristo



la catedral

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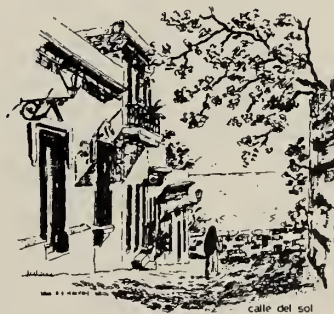
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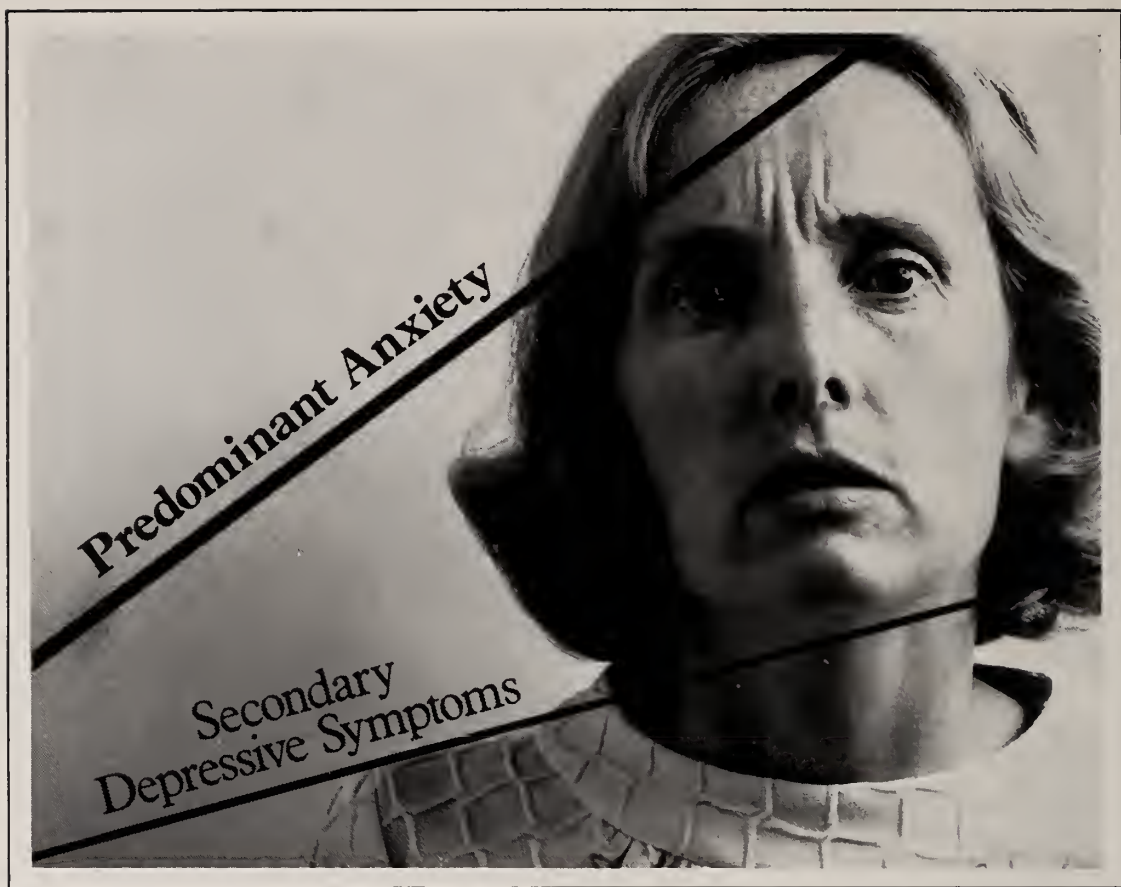


capilla del cristo



calle del sol

San F.S. MacKay.



This psychoneurotic often responds

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive dis-

orders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant

medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

APR 30 1974

When you determine that the depressive symptoms are associated with or secondary to predominant anxiety in the psychoneurotic patient, consider Valium (diazepam) in addition to reassurance and counseling, for the psychotherapeutic support it provides. As anxiety is relieved, the depressive symptoms referable to it are also often relieved or reduced.

The beneficial effect of Valium is usually pronounced and rapid. Improvement generally becomes evident within a few days, although

some patients may require a longer period. Moreover, Valium (diazepam) is generally well tolerated. Side effects most commonly reported are drowsiness, ataxia and fatigue. Caution your patients against engaging in hazardous occupations or driving.

Frequently, the patient's symptoms are greatly intensified at bedtime. In such situations, Valium offers an additional advantage: adding an *h.s.* dose to the *b.i.d.* or *t.i.d.* schedule can relieve the anxiety and thus may encourage a more restful night's sleep.

symptom complex to Valium[®] (diazepam)

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal

or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred

vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
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Valium[®] 2-mg, 5-mg, 10-mg tablets
(diazepam)

BOLETIN

ASOCIACION MEDICA DE PUERTO RICO



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Febrero 1974

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What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.



Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.



*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).



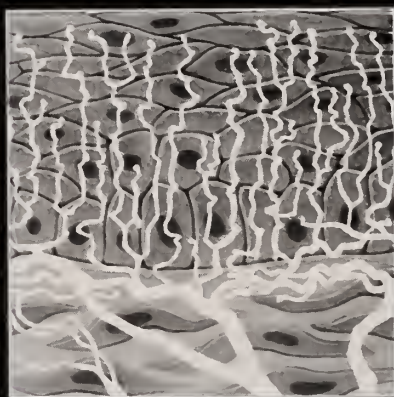
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This patient's lesions were resolved with

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5% cream/solution...a Roche exclusive

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OVERCORRECTED MYOPIA AND PSEUDOMYOPIA

Manuel N. Miranda, MD

The aim of distance correction, namely, to enable the ametropic patient, by means of glasses, to see distant objects distinctly without accommodation, is not always readily attained, because the patient may not sufficiently relax his accommodation. It is well known that such excessive or maintained accommodation, (1) as distinguished from the very rare spasms of accommodation, occurs in uncorrected or undercorrected hypermetropes especially in young persons doing much near work in deficient illumination. It also may be observed in some patients with iritis and in others using drugs that stimulate the parasympathetic system, but in these the increase in dioptric power of the crystalline lens is of a transient nature.

The excessive demand for accommodation is usually well met by hyperopic children with a high amplitude of accommodation but occasionally some of them develop esotropia. With increasing age presbyopic asthenopia may develop relatively early. However, the accommodative efforts that hyperopes have to make are well known, and adequate treatment is usually given to these patients.

It is less well known that excessive accommodation frequently exists also in myopia and, if overlooked, leads to overcorrection.

Why should excessive accommodation develop in myopia? There is little doubt that it develops in prolonged near vision where accommodation is called upon to compensate, with its associated accommodative convergence, for the generally present exophoria. The excessive accommodative effort is made, therefore, in the interest of binocular fusion and clarity of vision, especially in the presence of astigmatism. There is a tendency of myopes to accept more minus when refracted without cycloplegics, just as there is in emmetropes and even in hyperopes with an unstable active accommodation.

The result is an overcorrection of myopes and a "pseudomyopic" correction of emmetropes and hyperopes.

Overcorrected myopic children can usually meet the excessive demand for accommodation. However, because of the gradual decrease of the amplitude of accommodation presbyopic asthenopia may become manifest even before the age of 35 when the overcorrection is used for reading. This is even more harmful in pseudomyopes. The following two cases demonstrate this.

Case Reports and Discussion

Case 1:

A nun, age 26, complained of frequent headaches associated with nausea and vomiting when reading.

She was wearing O.D. -3.50 sphere; O. S. -2.50 -0.50 cx 100°; never had a cycloplegic refraction.

Vision without glasses was 20/200 in each eye. A cycloplegic refraction revealed hyperopia of O.D. + 1.25 sphere and O. S. + 1.75 sphere. With this correction vision was 20/20 in each eye when the patient was still under adequate cycloplegia.

Consequently, with her old glasses, the right eye had to accommodate 4.75 D for distance; namely 1.25 diopters because of her hyperopia and 3.50 D to compensate for the minus lens. The left eye had to accommodate 4.50 diopters; 1.75 diopters because of the hyperopia and 2.75 D because of the minus lens.

Her amplitude of accommodation was 8 diopters. Therefore, more than half of the amplitude was spent for distance vision; so a total of about 7.00 D of accommodation was required for reading at 16 inches. Asthenopic symptoms developed because this accommodative requirement for reading exceeded by far 1/2, and even 2/3, of the amplitude of accommodation, limits which experience has set for comfortable near vision when used over long periods of time.

Her excessive accommodation disappeared gradually after prolonged treatment with 1 percent atropine sulfate drops.

Case 2:

A physician, age 36, complained of headaches and pain in the eyes after reading with his distance correction.

He was wearing O.D. -1.50 -1.00 cx 5°; O.S. -0.50 -1.00 cx 180°.

Vision without glasses was 20/200 in the right eye and 20/60 in the left.

Cycloplegic refraction revealed O.D. -0.75 -1.00 cx 175°; O.S. + 0.50 -1.00 cx 10°. With this correction, and still under the effect of the cycloplegic, vision was 20/20 in each

eye.

He had an amplitude of accommodation of 4 diopters. With his old glasses the right eye had to accommodate for distance 0.75 diopter; the left 1.00 diopter. Reading at 16 inches required therefore an accommodation of 3.25 diopters for the right eye, and 3.50 D for the left. Asthenopic symptoms developed because he had to use more than 2/3 of his amplitude for reading.

His symptoms disappeared after using the cycloplegic correction for sometime.

Presbyopic asthenopia in overcorrected myopes is probably more common in the tropics than elsewhere, because in our experience, and that of other ophthalmologists practicing in the tropics, a comparatively lower amplitude of accommodation (2) is found, especially after the age of 30.

Without their glasses, myopes with sustained accommodation have of course, poorer vision for distance than might be expected on the basis of a cycloplegic examination. Indeed, this fact, as well as a comparatively low amplitude of accommodation, is indicative of excessive accommodation. The result may be lowered performance in certain tasks. The following two cases will demonstrate this.

Case 3:

A basketball player, age 25, complained of his inability of seeing the basket well without glasses which he was unwilling to wear for fear of injury. He had tried contact lenses without success. His glasses consisted of two -2.00 sphere. Without these, vision was 20/200 in the right eye and 20/100 in the left. He had never had a cycloplegic refraction. When one was performed, 20/20 vision was obtained in each eye with O.D. -0.50 -0.50 ex 15° and O.S. -0.25 -0.50 xc 170°.

Because of this small compound myopic astigmatism one would expect his uncorrected vision to be about 20/30 and 20/40 instead of 20/100 and 20/200.

Case 4:

A housewife, age 24, came for a routine ocular examination. Her glasses were O. D. -3.00 sphere, O.S. -2.50 sphere. Vision without them was 20/200 in the right eye, and 20/200 in the left.

Cycloplegic refraction - none had been given previously - called for a correction of O D. -1.50 -0.50 ex 125°; O.S. -1.25 sphere, giving 20/20 vision in each eye.

Because of this finding, one would expect her uncorrected vision to be better than 20/300 and 20/200.

The poor visual acuities for cases 3 and 4 prove the presence of excessive accommodation at distance. Case 3, the basketball player, improved his vision for distance to O. D. 20/30 and O.S. 20/25 without correction after two months of

treatment with 1 percent atropine sulfate drops and the wearing of the cycloplegic refraction. After 1 year he still showed this improved vision. Case 4, the housewife, was examined again after wearing the cycloplegic correction for 15 months; her vision for distance without glasses had improved to O. D. 20/100 and O. S. 20/80.

Conclusion

The only sure way of preventing an overcorrection of myopes as well as pseudomyopia in emmetropes and hyperopes with active accommodation, is a cycloplegic refraction. It should be given to every patient under 40 years age.

Summary

Two cases of pseudomyopia, cases 1 and 2, and two cases of overcorrected myopia, cases 3 and 4 are presented. The poor vision and the asthenopic symptoms that developed on account of overcorrection had a deleterious impact in their daily activities. Only a cycloplegic refraction discovered the overcorrection and permitted adequate treatment to be given.

Resumen

Dos casos de pseudomiopía, casos 1 y 2, y dos casos de miopía sobrecorregida, casos 3 y 4 se presentan. La disminución en la visión y los síntomas astenópticos que surgieron a causa de la sobrecorrección, tuvieron efectos detrimentales en las actividades diarias de los pacientes. Solamente una refracción cicloplégica pudo descubrir la sobrecorrección y permitir, por lo tanto, el tratamiento adecuado.

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TOXICOLOGY OF AMPHETAMINE

Sidney Kaye, PhD

Raúl Guillermo Osorio, QF, MSc.

The amphetamines within recent years have become a very popular drug for abuse. The practice of "doping" is tried in the sports, arts, student life and "intellectual" circles in the hope that it will stimulate the individual into a more "masterful" performance. Although it does stimulate the cerebral cortex, it unfortunately also stimulates other areas which can produce undesirable effects. "Doping" is a dangerous practice.

In a recent study (1) of the overall patterns of drug prescribing and use in an American community, it was shown that the amphetamines were the eighth most frequently dispensed class of drugs.

The following is therefore offered as a brief outline-resume of some of the properties, signs, symptoms, toxicity, duration of action and treatment of acute overdosage with the amphetamines.

Amphetamines



Synonyms: Benzedrine: racemic d-l amphetamine sulfate, phenyl isopropylamine, methyl phenethylamine sulfate; Alentol, Psychoton, Sympamine; ("bennies" "Splash", "peaches").

Dexedrine: d-amphetamine sulfate, d-a-methyl phenethylamine sulfate, Afatin, Dexamphetamine, d-amfetastul, Domafate, Obesedrin, Dexten, Maxiton, Sympamin, Simpamina-D, Albemap, Dadex, Amsustain, Betafedrina ("dexies", "co-pilot", "oranges").

Methamphetamine: d-desoxy ephedrine, Adipex, Amphetroxyn, Isophen, Methedrine, Dexstim, Pervitin, Syndrox; ("meth", "speed", "water", "crystal").

From the School of Medicine, Institute of Legal Medicine, University of Puerto Rico, and School of Medicine, University of Antioquia, Medellin, Colombia, S. A.

In partial fulfillment of the requirements for the MSc. in Toxicology. The Department of Pharmacology and Toxicology and the Institute of Legal Medicine, University of Puerto Rico.

Uses: To reduce appetite and weight; to reduce depression; to combat fatigue; and to help hyperkinetic children.

Properties: White crystals which are basic, easily soluble in ethanol, n-hexane, ethyl acetate, and chloroform; but only partially soluble in ether.

Minimum lethal dose (MLD): Approximately 0.250 gm for a normal 150 pound man; but a habitué can tolerate much larger doses (2).

Remarks: Acts as a central nervous system stimulant (sympathomimetic). Dexedrine is 2 x more toxic than Benzedrine; methamphetamine is more powerful than both.

Symptoms: (2, 3, 4, 5, 6)

Mild symptoms: Apprehensiveness, restlessness, anorexia, tremors, insomnia, talkativeness, tachycardia, flushed face, increased sweating, dilated pupils, dryness of mouth, chills, abdominal cramps, nausea, vomiting, cardiac arrhythmias, elevated blood pressure, glycosuria, hyperactive reflexes, analgesia, fever, belching, flatulence.

Moderate symptoms: All of the above but to a greater degree. Increased libido, anxiety, confusion, delirium, hallucinations, panic state, profuse sweating, hypertension, extrasystoles, diarrhea or constipation. Powerful analeptic, stimulation followed by depression and fatigue, suicidal and homicidal tendencies especially in mentally ill or predisposed patients.

Severe symptoms: All of the above but more severe. Confusion, convulsions, high fever, chest pains, coma, circulatory collapse.

Comments: The amphetamines as a group are often called "pep pills". This group of drugs may be useful when prescribed by a physician and is used properly. Abusers however, may get into trouble by an over exertion without warning and damage to the heart can occur.

A profound tolerance is developed with the amphetamine group. This tolerance is developed slowly and becomes very marked, but the margin between euphoria and toxic psychosis remains the same. This presents additional problems to the abuser.

Although withdrawal symptoms following continuous use of large dosage are usually physically painless (psychic dependency), great discomfort is experienced, and severe depression sometimes leading to suicide can result.

Suggested treatment (2, 3, 4, 5, 6): Patient should be isolated in a dark and quiet room; disturbance and manipulation must be kept at a minimum; control excitement and convulsion with ether inhalation or diazepam (Valium). Chlorpromazine may also help to offset the excitatory state.

Give milk and/or activated charcoal; then remove by gastric lavage or emesis, followed by saline cathartic (sodium sulfate 25 gm) (tablespoon full) in half a glass of water. Maintain an acid urine at approximately pH 5 with ammonium chloride; this will greatly hasten elimination from the body. Maintain patent airway and respiration; maintain body fluid and electrolyte balance. Supportive and symptomatic treatment.

Summary

Abuse with the amphetamine group has become very popular in recent years. The fact that it is used by our restless youth because it is readily available, gives a "lift" (pep) and is long acting, presents a serious problem to the normal development of the user, and to society in general.

A brief resume and references have been suggested to assist the physician in making a rapid and reliable diagnosis of abuse or overdose with the amphetamines. This includes the various signs and symptoms that may be present at different stages.

Newer concepts in treatment and management have been suggested, such as the recent "glowing" reports on the effectiveness of diazepam (Valium) to control convulsions; and that acid - urine greatly hasten elimination of the amphetamine from the body.

Resumen

El uso y abuso con las anfetaminas y sus derivados se ha vuelto muy popular en estos años. La fácil adquisición de éstas por los jóvenes presenta un serio problema al desarrollo general de nuestra sociedad.

En estos años se ha reportado la manufactura de billones de tabletas; esto es una gran cantidad de tabletas por año/persona.

En realidad no sabemos mucho sobre la acción de la anfetamina. Aunque no hemos tenido muertes auténticas identificadas como causadas por anfetaminas sabemos que el uso y abuso está presente. Este abuso debe ser identificado para así saber la acción a tomar (diagnóstico y tratamiento) que sea necesario.

Un breve resumen y referencias están sugeridos para ayudar a los médicos a hacer un buen diagnóstico en relación a una sobredosis con anfetamina. Esto incluye varios signos y síntomas que estarán presentes en diferentes etapas. Para sostener este diagnóstico, la cromatografía de placa fina (que ahora es un simple y práctico procedimiento al alcance de todos los hospitales de nuestra Isla) está incluido también. Además están incluidos varios métodos de los cuales encontrarás uno que esté al alcance de tus facilidades. Estos métodos también pueden ser usados para la identificación de otras drogas, especialmente los narcóticos.

Nuevos conceptos y tratamientos han sido sugeridos, como el reciente reporte de la efectividad del Diazepam (Valium) para controlar las convulsiones; - y el hecho de que la orina-ácida favorece satisfactoriamente la eliminación de la anfetamina del cuerpo.

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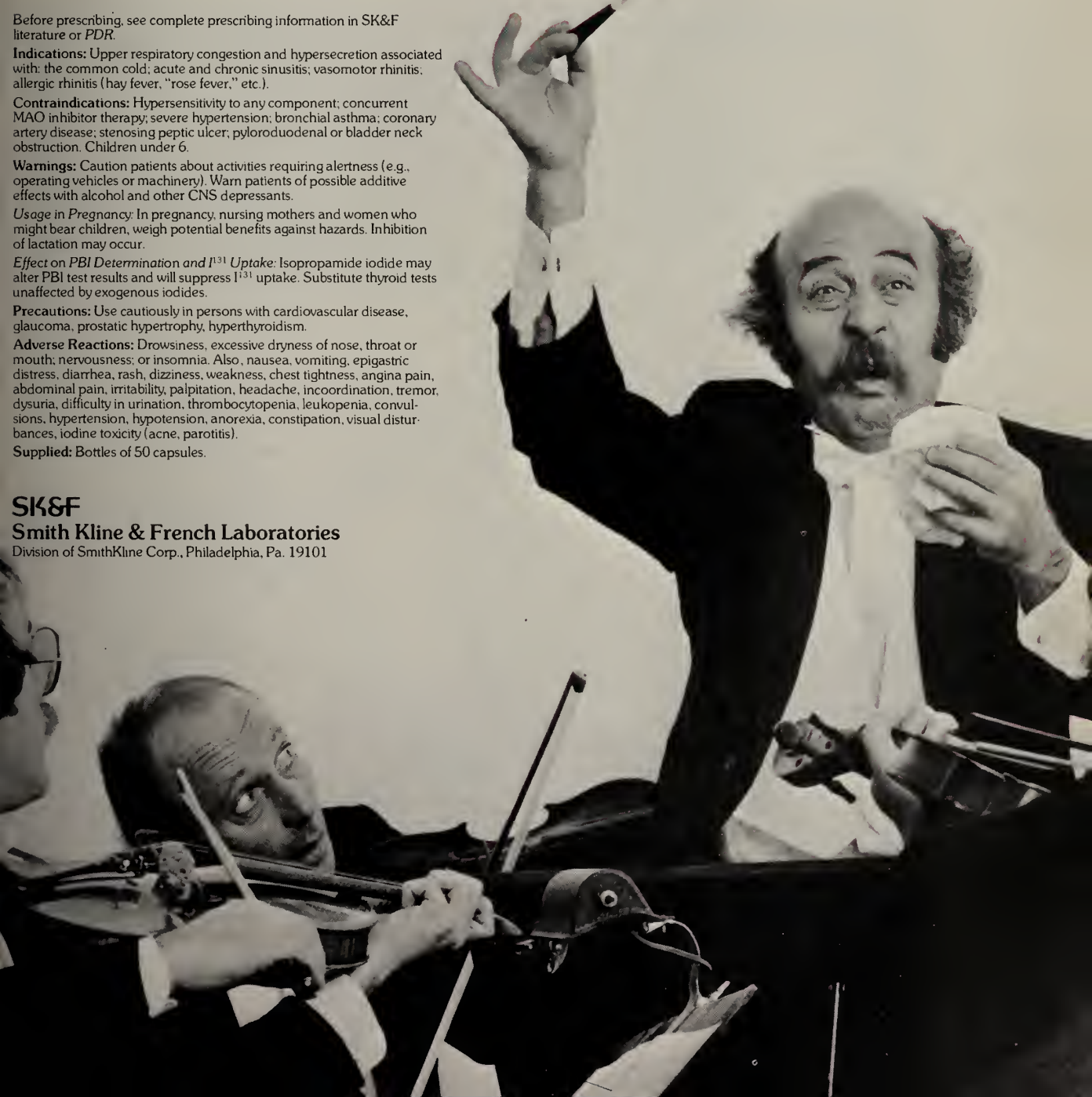
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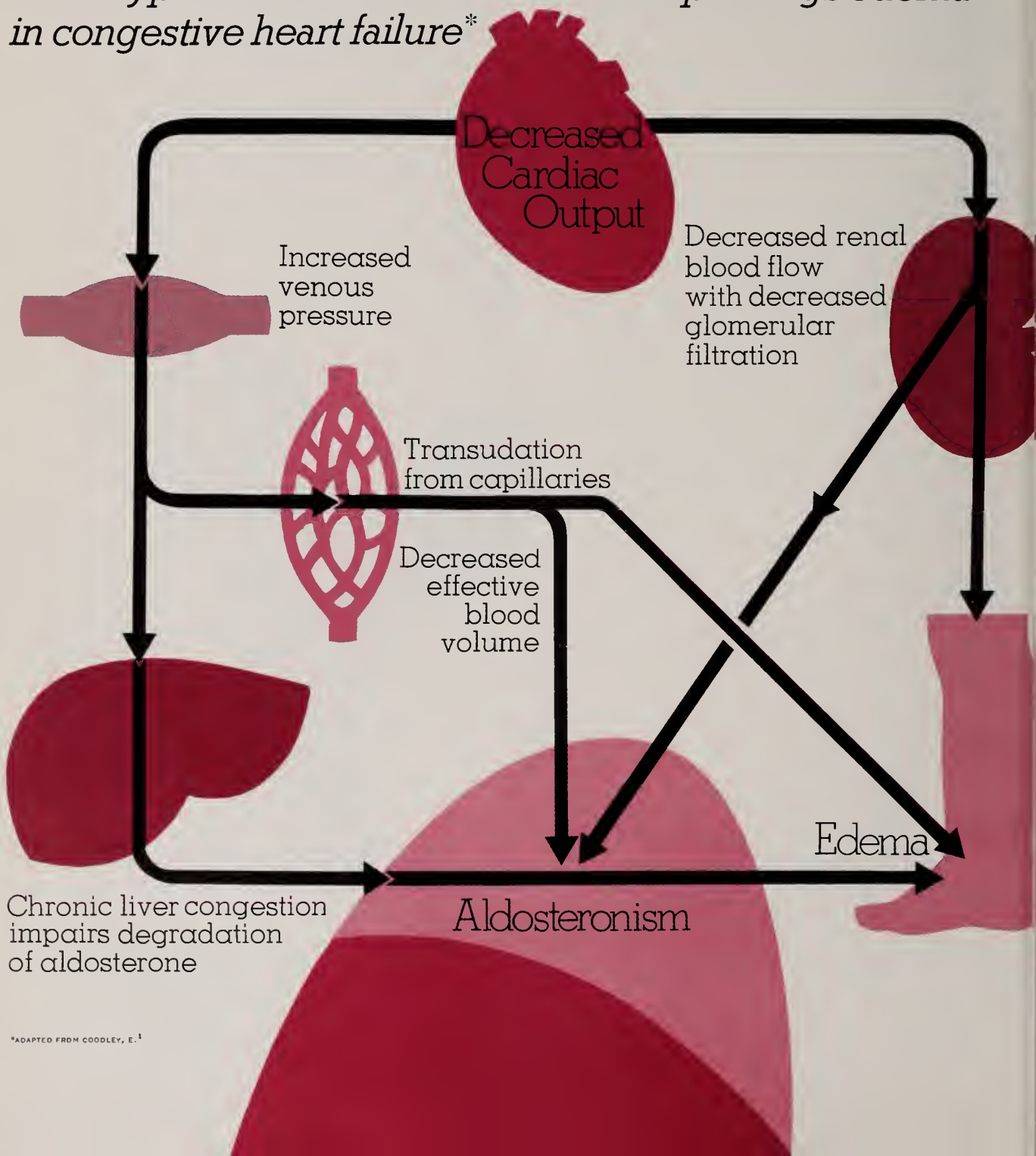
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Precautions—Patients should be checked carefully since electrolyte imbalance may occur. Although usually insignificant, hyperkalemia may be serious when renal impairment exists; deaths have occurred. Hyponatremia, manifested by dryness of the mouth, thirst, lethargy and drowsiness, together with a low serum sodium may be caused or aggravated, especially when Aldactone is combined with other diuretics. Elevation of BUN may occur, especially when pretreatment hyperazotemia exists. Mild acidosis may occur. Reduce the dosage of other antihypertensive drugs, particularly the ganglionic blocking agents, by at least 50 percent when adding Aldactone since it may potentiate their action.

Adverse Reactions—Drowsiness, lethargy, headache, diarrhea and other gastrointestinal symptoms, maculopopular or erythematous cutaneous eruptions, urticaria, mental confusion, drug fever, ototoxicity, gynecomastia, inability to achieve or maintain erection, mild androgenic effects, including hirsutism, irregular menses and deepening voice. Adverse reactions are infrequent and usually reversible.

Dosage and Administration—For essential hypertension in adults the daily dosage is 50 to 100 mg. in divided doses. Aldactone may be combined with a thiazide diuretic if necessary. Continue treatment for two weeks or longer since an adequate response may not occur sooner. Adjust subsequent dosage according to response of patient.

For edema, ascites or effusions in adults initial daily dosage is 100 mg. in divided doses. Continue medication for at least five days to determine diuretic response; add a thiazide or organic mercurial if adequate diuretic response has not occurred. Aldactone dosage should not be changed when other therapy is added. A daily dosage of Aldactone considerably greater than 75 mg. may be given if necessary.

A glucocorticoid, such as 15 to 20 mg. of prednisone daily, may be desirable for patients with extremely resistant edema which does not respond adequately to Aldactone and a conventional diuretic. Observe the usual precautions applicable to glucocorticoid therapy; supplemental potassium will usually be necessary. Such patients frequently have an associated hyponatremia—restriction of fluid intake to 1 liter per day or administration of mannitol or urea may be necessary (these measures are contraindicated in patients with uremia or severely impaired renal function). Mannitol is contraindicated in patients with congestive heart failure, and urea is contraindicated with a history or signs of hepatic coma unless the patient is receiving antibiotics orally to "sterilize" the gastrointestinal tract.

Glucocorticoids should probably be given first to patients with nephrosis since Aldactone, although useful for diuresis, will not directly affect the basic pathologic process.

For children the daily dosage should provide 1.5 mg. of Aldactone per pound of body weight.

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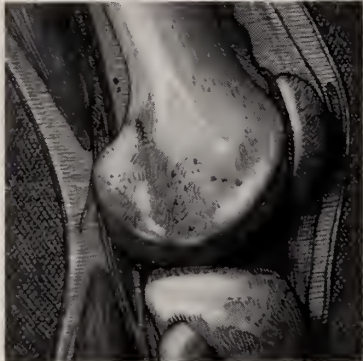
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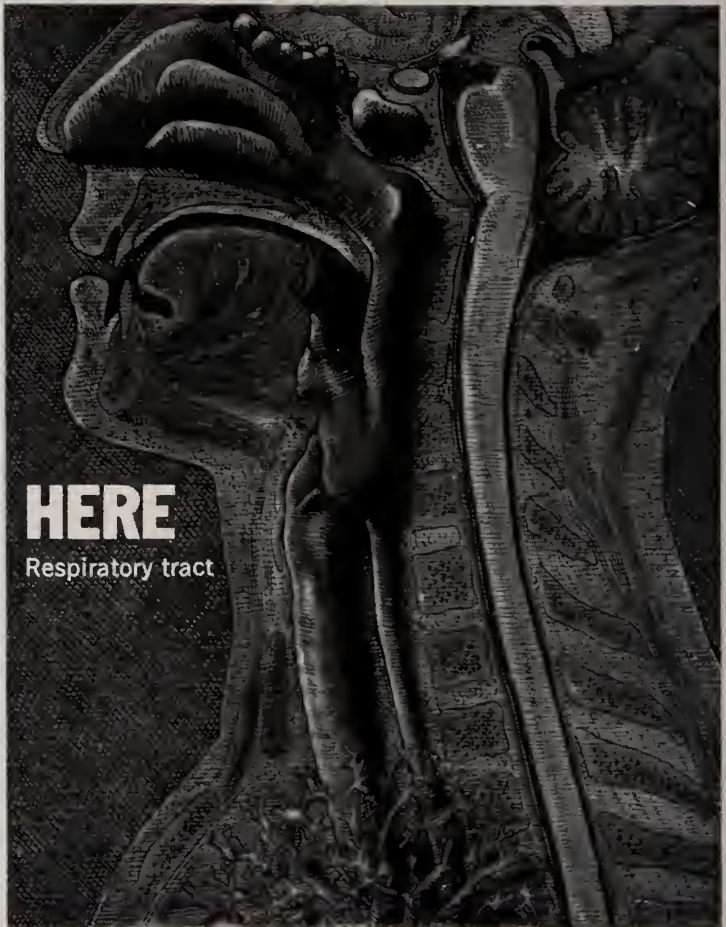


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HIPERTENSION: EL RIESGO Y EL RETO

Elí A. Ramírez-Rodríguez, MD, MS, FACP

En contraste con muchas otras enfermedades serias y comunes, se puede vislumbrar hoy en día el control efectivo de la hipertensión. El propósito de este artículo es repasar las bases que documentan esa aseveración, explicar su importancia dentro del marco de la salud, tanto personal como pública, y hacer un llamamiento a acción para el control de la hipertensión.

El riesgo de la hipertensión en sus fases malignas ha sido ampliamente documentado. También ha sido demostrado el valor dramático del tratamiento con drogas antihipertensivas en esta fase (1-6). Sin embargo, hasta hace relativamente pocos años se discutía si el tratamiento era efectivo en evitar morbilidad y mortalidad en formas menos severas de la hipertensión (7-9). Se hacía obvia la necesidad de llevar a cabo estudios prospectivos adecuadamente controlados para evaluar el tratamiento en pacientes con hipertensión esencial no maligna. En el año 1963, se inició una investigación de este tipo por un grupo de investigadores de la Administración de Veteranos. Se diseñaron protocolos que garantizan el valor estadístico de los resultados y que incluyen precauciones para mantener un fiel seguimiento de los pacientes.

En el año 1967, se informaron los primeros resultados (10). Ciento cuarenta y tres hipertensos varones con presiones diastólicas promediando entre 115 y 129 mm. Hg fueron asignados al azar a tratamiento activo (que consistió de hidrociorotiazida, reserpina e hidralazina), o a tratamiento con placebos. Dentro de un promedio de solo 16 meses de observación, 27 complicaciones severas ocurrieron en el grupo de pacientes tratados con placebos comparado con solamente 2 en el grupo tratado con medicación activa. Las complicaciones que fueron observadas en los pacientes tratados con placebos incluyeron aneurisma aórtica disecante, retinopatía hipertensiva grado 3 o 4, fallo cardíaco

congestivo, azotemia progresiva, ruptura de aneurisma abdominal, trombosis cerebral, isquemia cerebral transitoria, hemorragia cerebral, infarto de miocardio, y elevación de la presión arterial a niveles considerados como malignos. Ocurrieron 4 muertes en el grupo tratado con placebos y ninguna en el grupo tratado con medicación activa. Como resultado de estas observaciones, se concluyó que pacientes varones con presiones diastólicas promediando 115 mm. Hg o más, representan un grupo de alto riesgo en el cual el tratamiento con medicación antihipertensiva ejerce un efecto beneficioso altamente significativo.

En el año 1970, se informó sobre los resultados en pacientes cuyas presiones diastólicas iniciales promediaron desde 90 hasta 114 mm. Hg (11). Trescientos ochenta hipertensos varones fueron asignados al azar al mismo tratamiento activo descrito anteriormente o a placebos. Dentro de un promedio de 3.3 años de seguimiento, ocurrieron complicaciones mórbidas de la hipertensión en 35 pacientes del grupo tratado con placebos comparado con 9 pacientes del grupo tratado con medicación activa. El riesgo de desarrollar una complicación mórbida de la hipertensión en un período de 5 años se redujo de 55 por ciento a 18 por ciento por el tratamiento. El fallo cardíaco congestivo, el derrame cerebral y el daño progresivo al riñón fueron marcadamente reducidos o eliminados en el grupo de pacientes tratados con medicación activa. Ocurrieron 19 muertes relacionadas a enfermedad cardiovascular en el grupo testigo y solamente 8 en el grupo tratado activamente. Además de las complicaciones mórbidas de la hipertensión ya enumeradas, 20 pacientes del grupo testigo desarrollaron elevación persistente de la presión diastólica a 125 mm. Hg o más. En contraste, ningún paciente del grupo tratado desarrolló tal elevación.

Se concluyó que el tratamiento también es beneficioso en pacientes con presión diastólica de 90 hasta 114 mm. Hg, pero que considerando estos resultados junto a los informados anteriormente, el beneficio del tratamiento está claramente relacionado con el nivel de la presión inicial: si ésta es alta, el beneficio es marcado; si ésta es relativamente baja, el beneficio es proporcionalmente menor.

Del Servicio de Medicina, Hospital de Veteranos, San Juan, Puerto Rico, 00936.

Presentado en acto conmemorativo del Día Mundial del Corazón, Asociación Médica de Puerto Rico, 7 de abril de 1972.

Subsiguiente a este último informe, los pacientes con presiones diastólicas entre 90 y 114 mm. Hg fueron estudiados respecto al efecto de factores posiblemente predictivos de la efectividad del tratamiento (12).

Influencia de la edad

La presión sistólica inicial se relacionó directamente con la edad; sin embargo, la presión diastólica inicial fue esencialmente la misma para todas las edades. Por lo tanto, cualquier asociación observada entre la edad y el tratamiento fue independiente de la presión diastólica inicial.

Se observó relación entre la edad y la incidencia de complicaciones mórbidas de la hipertensión desarrolladas durante el período de observación. Entre el grupo de pacientes tratados con placebos se desarrollaron complicaciones en un 15 por ciento de los pacientes de menos de 50 años comparado con 26.9 por ciento en el grupo de 50-59 años y 62.8 por ciento en el grupo de más de 60 años. No obstante, el tratamiento fue efectivo irrespectivo de la edad, ya que la incidencia de complicaciones mórbidas fue mucho más baja en los pacientes de la misma edad tratados activamente.

Ciertas complicaciones se relacionaron más con algunas edades que con otras. Los accidentes cerebrales y el fallo cardíaco fueron notablemente más frecuentes en pacientes de más de 60 años mientras que la hipertensión acelerada y el daño renal ocurrieron predominantemente en pacientes de menos de 50 años. La mayor parte de los pacientes que desarrollaron derrame cerebral, hipertensión acelerada y daño renal estaban en placebos. Es interesante que las manifestaciones de enfermedad coronaria ocurrieron en todos los grupos, aunque la incidencia fue más alta en los pacientes de 60 años o más. Contrario a las categorías ya mencionadas, las complicaciones de enfermedad coronaria no fueron afectadas por el tratamiento antihipertensivo.

Influencia de daño cardiovascular pre-existente

Por razones éticas, el protocolo de este estudio excluyó pacientes con historial de complicaciones importantes de hipertensión tales como hemorragia cerebral, hemorragia subaracnoidea, fallo cardíaco congestivo persistente que requiriese diuréticos constantemente, fase acelerada de hipertensión, insuficiencia renal severa y encefalopatía aguda hipertensiva.

Un historial de infarto del miocardio, fallo car-

díaco o trombosis, estuvo relacionado con un riesgo aumentado de desarrollar más tarde complicaciones mórbidas de hipertensión: 53 por ciento en el grupo testigo y 26 por ciento en el grupo tratado. Sin esos antecedentes, pero con evidencia menor de daño cardíaco, cerebral o renal, la incidencia de complicaciones mórbidas fue de 33 por ciento en el grupo testigo y 8 por ciento en el grupo tratado. En cambio, en los pacientes que no tenían evidencia alguna de anomalías pre-existentes, solo 16 por ciento del grupo testigo y 8 por ciento del grupo tratado desarrollaron complicaciones. Debido al número relativamente pequeño de pacientes sin anomalías pre-existentes, la diferencia entre el grupo testigo y el tratado no es estadísticamente significativa.

Según fue mencionado anteriormente, 20 pacientes del grupo testigo fueron separados del estudio antes de desarrollar ninguna complicación porque su presión diastólica subió sobre 124 mm. Hg por tres semanas consecutivas. Siete de estos 20 pacientes tenían una presión diastólica inicial menor de 105 mm. Hg, 15 de los 20 tenían menos de 50 años de edad, y 10 de los 20 no tenían evidencia alguna de anomalía cardíaca, cerebral, o renal persistente. Como ya se estableció en los estudios anteriores que a un nivel de presión diastólica sobre 124 mm. Hg el riesgo de desarrollar complicaciones es extremadamente alto, el retirar estos pacientes antes de desarrollar una complicación produjo una subestimación de la efectividad del tratamiento en todos los grupos, pero particularmente en los de menos de 50 años de edad y en los que no tenían anomalías cardio-cerebro-renales antecedentes a la asignación del tratamiento.

Efectos de combinaciones de factores

Al estudiarse el efecto combinado del nivel de presión diastólica inicial, la edad y las enfermedades cardio-cerebro-renales, se comprobó que el mayor beneficio del tratamiento se logró en los sub-grupos con presiones diastólicas de 105 a 114 mm. Hg, irrespectivo de la edad o de evidencia de enfermedad cardio-cerebro-renal. La menor efectividad del tratamiento se observó en dos sub-grupos: aquellos con presión diastólica inicial menor de 105 mm. Hg sin anomalías cardio-cerebro-renales, y los de presión diastólica menor de 105 mm. Hg con menos de 50 años de edad. Estos resultados pueden estar considerablemente influenciados por el relativamente corto período de seguimiento.

El estudio de tasas de ataque y efectividad del trata-

miento tomando en consideración simultáneamente los tres factores de riesgo al entrar al estudio demostró que tanto las tasas de ataque como la efectividad del tratamiento fueron bajas cuando no habían factores de riesgo y aumentaron progresivamente según aumentó el número de los factores de riesgo. Para detalles sobre esta y otras consideraciones respecto a esta investigación, el lector debe consultar la referencia original (12).

Discusión

En la muestra seleccionada de pacientes de estos estudios, el tratamiento antihipertensivo fue efectivo aparentemente en reducir la mayor parte de las complicaciones asociadas con la hipertensión. Las excepciones notables fueron el infarto de miocardio y la muerte súbita, la incidencia de las cuales fue casi igual en los pacientes tratados y los de control. Este resultado no es necesariamente inconsistente con la evidencia estadística de que la hipertensión es uno de los factores de riesgo asociado con una incidencia aumentada de enfermedad coronaria. Es posible que una muestra más grande o un período de seguimiento más largo hubiera revelado diferencias que no han aparecido en estos estudios. También es posible que una mayor protección se hubiese manifestado si el tratamiento hubiese comenzado en una etapa más temprana de la hipertensión. Para resolver este problema se necesitan otros estudios en poblaciones distintas de pacientes hipertensos.

Los resultados de estos estudios justifican esfuerzos más intensos para identificar y mantener bajo tratamiento a aquellos hipertensos con presiones diastólicas sobre 104 mm. Hg y los de niveles más bajos que tengan evidencia de daño cardio-cerebro-renal. Sin embargo, se necesitan más datos para determinar si los beneficios del tratamiento superan sus desventajas en pacientes de riesgo menor tales como los que tienen hipertensión de menos de 105 mm. Hg sin evidencia de daño cardio-cerebro-renal, las mujeres hipertensas, y los pacientes con hipertensión lábil. A pesar de que varios estudios (13, 14) han demostrado que la morbilidad y la mortalidad aumentan concomitantemente con el nivel de presión arterial sin aumento abrupto en un punto crítico específico, no hay evidencia establecida de que controlando la presión en estos grupos marginales se pueda obtener algún beneficio. Cuando este beneficio pueda demostrarse y cuantificarse, habrá que determinar si es suficiente para contrarrestar el riesgo de las reacciones

adversas y otros efectos secundarios indeseables que pueden ocurrir con los agentes antihipertensivos disponibles al presente.

A pesar de que no existan indicaciones precisas para tratar los pacientes de estos grupos marginales, tienen que ser identificados y mantenidos bajo observación para que se pueda determinar si su hipertensión progresa a una etapa más severa y si el tratamiento está indicado. Este seguimiento es de particular importancia en individuos jóvenes, ya que en los estudios aquí discutidos 15 de los 20 pacientes de control cuyas presiones diastólicas subieron a niveles severos tenían menos de 50 años de edad, y 7 tenían una presión diastólica inicial de menos de 105 mm. Hg.

Sería altamente deseable el que se pudieran identificar con más precisión los hipertensos de mayor riesgo. Si se logra confirmar el informe de Brunner y colaboradores (15), en el sentido de que los niveles de renina en la sangre están elevados en hipertensos con propensión a complicaciones, tendríamos una ayuda notable en esa identificación. También es posible que estudios clínicos futuros añadan más información para perfeccionar la identificación de esos casos.

Un problema mayor aún es la identificación de los hipertensos en la población. Varios estudios (16, 17), indican que de 11 por ciento a un 20 por ciento de los adultos en los Estados Unidos de América tienen hipertensión, según los criterios de una presión casual sobre 160 mm. Hg sistólica o 95 mm. Hg diastólica. Esta proporción representa alrededor de 22 millones de personas. Alrededor de la mitad de ellos tienen cardiomegalia por Rayos-X o electrocardiografía. De esta gran reserva es que provienen las 200,000 muertes anuales que se atribuyen a la hipertensión en los Estados Unidos (16).

En estos estudios se ha encontrado bastante uniformemente que alrededor de la mitad de los hipertensos ni siquiera saben que tienen hipertensión. Solo la mitad de los que saben que tienen hipertensión han recibido tratamiento alguna vez, y de esos, solo la mitad recibe tratamiento adecuado, representando como la octava parte del total de los hipertensos.

En Puerto Rico las cifras informadas son algo más bajas, pero todavía impresionantes. García Palmieri y colaboradores (18) encontraron hipertensión definitiva en residentes de la zona urbana, en 13 por ciento de los de 45 - 54 años de edad y en 21 por ciento de los de 55 - 64 años. En residentes de la zona rural la proporción fue de 6 por ciento en los de 45 a 54 años y 12 por ciento en los de 55 - 64 años. Informes de la División

de Planificación, Investigación y Evaluación del Departamento de Salud indican que en el año 1966 había en nuestra Isla alrededor de 100,000 hipertensos (19). En el año 1971, se informaron en Puerto Rico 69 muertes por hipertensión, sin mención del corazón (20). No es posible determinar de este informe cuántas de las 4,068 muertes debidas a enfermedades del corazón, de las 1,413 debidas a enfermedades cerebrovasculares, y de las 129 debidas a enfermedades renales estuvieron asociadas con la hipertensión. Si esta mortalidad, además de la morbilidad asociada, puede evitarse en gran parte mediante el tratamiento, según indican los estudios antes presentados, urge la aplicación de los resultados experimentales al control de la enfermedad.

Recientemente la Administración de Veteranos, correspondiendo a su responsabilidad por haber sostenido las investigaciones que produjeron los resultados aquí expuestos, ha estado desarrollando un plan para demostrar la factibilidad de detectar y tratar en masa a los cerca de 5 millones de veteranos hipertensos. Se puede apreciar que serán necesarios métodos enteramente nuevos para realizar este programa incluyendo la utilización de personal paramédico adiestrado y de técnicas educativas modernas. Es indudable que será necesaria también la cooperación de todos los sectores de la comunidad.

De tener éxito este programa se resolvería solo una pequeña parte del problema, ya que deja sin tocar los hipertensos de la población general que son muchos más. Se plantea ante la comunidad un problema de planificación a largo plazo para proveer las facilidades que sean necesarias para la identificación, diagnóstico y tratamiento de la gran población hipertensa.

Posiblemente la hipertensión representa el factor de riesgo cardiovascular más extensamente difundido en la población y que es también más directa y específicamente letal y/o mórbido. Su identificación en el sujeto individual no puede ser más sencilla. Estos estudios indican que de los factores de riesgo cardiovasculares, es el que más efectivamente se puede controlar por un tratamiento que es relativamente sencillo y barato. Compete a la comunidad en pleno, tanto del sector gubernamental como del privado y voluntario, que se estudie detalladamente este problema para que, utilizando los recursos existentes lo más efectivamente posible, se pueda establecer un programa que reúna los elementos necesarios para lograr el control de la hipertensión.

Resumen

Se ha demostrado que la hipertensión no tratada se acompaña de una mortalidad y morbilidad muy significativa. También se ha comprobado que el tratamiento con drogas antihipertensivas disminuye marcadamente dicha mortalidad y morbilidad, y que este tratamiento puede ser muy sencillo y económico. Se han podido establecer criterios de selección que permiten reconocer con bastante precisión cuáles son los hipertensos que se deben tratar.

Es necesario apreciar la importancia de esta información a la luz del hecho de que la hipertensión es sumamente prevalente, afectando alrededor de 22,000,000 de personas en los Estados Unidos de América y probablemente cerca de 200,000 en Puerto Rico. Además se ha encontrado que cerca de la mitad de los hipertensos no saben que lo son, y que a lo sumo una octava parte está recibiendo tratamiento adecuado.

En consonancia con su participación en la elucidación de algunos de estos hallazgos, la Administración de Veteranos ha empezado un programa que pretende detectar y tratar los veteranos hipertensos. Se hace un llamamiento a la comunidad para que se estudie el hacer lo mismo respecto a la población general.

Summary

It has been demonstrated that untreated hypertension is accompanied by a very significant mortality and morbidity. It has been also established that treatment with antihypertensive drugs markedly diminishes this morbidity and mortality, and that such treatment can be very simple and inexpensive. Adequate criteria to select the hypertensives who should be treated have been identified.

It is necessary to recognize the importance of this information in the light of the high prevalence of hypertension, which affects about 22,000,000 persons in the United States and probably near 200,000 in Puerto Rico. Besides, it has been found that approximately one half of all hypertensives do not even know that they are hypertensive; a scant one eighth are under adequate treatment.

In harmony with its role in generating some of this information, the Veterans Administration has recently embarked on a program that hopes to detect and treat all hypertensive veterans. An appeal is made to the com-

munity to study doing the same for hypertensives in the general population.

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THE HISTORY OF THE DEVELOPMENT OF ORGANIZED UROLOGY IN SAN JUAN, PUERTO RICO

W. E. Kittredge, MD

We are here today to honor a truly great man. This is the first of a perpetual series of annual lectures to be known as the *Luis A. Sanjurjo* Lecture to be presented to the Puerto Rican Urological Association. It will be sponsored by this Association as a continuing expression of the deep appreciation and gratitude felt by the membership of the organization for the teaching and guidance provided them through the years by Dr. Sanjurjo. I am extremely proud to have been invited to be the first speaker in this series.

Luis Sanjurjo was born in Puerto Rico in 1911, the son of Luis and Ana Ramírez Sanjurjo. He received all of his medical training in Montpellier and Paris, France. He then returned to Puerto Rico to enter the practice of Medicine, beginning in the Vega Baja municipality. He entered the Army Reserves in 1937 as a 1st Lieutenant and served until 1945, working with Dr. Passalacqua and other trained surgeons. He was head of the Urology Department of the 161st Army Hospital in San Juan from 1939 to 1945. He was honorably discharged as a Lt. Colonel. His years in the Army at Ft. Brooke Hospital in San Juan provided the background for not only his urological training, but for the development of his own strict self-discipline. It is said by those who have been associated with him that he has never been known to be late to the operating room, ward rounds or his office appointments.

Dr. Sanjurjo soon turned his attention to the development and promotion of organized Urology. He founded the Puerto Rican Urological Association in 1949 and was also the guiding force in the formation of the local chapter of the American College of Surgeons. He served as Secretary to both organizations during their first years of development. As time went on, he became more and more deeply involved in all

urological activities in and around San Juan, becoming in succession - Chief of Urology at the Fajardo District Hospital, the VA Hospital San Patricio, San Juan City Hospital, and Professor of Urology and Chief of the Section of the Medical School. He created the first urological training program in Puerto Rico at the San Juan City Hospital in 1951. Even now, after relinquishing many of his teaching responsibilities, he is still an Associate Professor of Urology at the School of Medicine in San Juan.

He is the author of nearly 50 medical treatises and articles and contributed chapters to four textbooks. Perhaps, his most important was his first, done in Paris in 1935, entitled "L'Importance de l'Urethrographie dans la Maladie Diverticulaire de la Prostate", for which he received the Silver Medal Award. Among his more notable contributions to textbooks are chapters on "Parasitic Disease of the Urogenital Tract" in *Campbell's Urology*, 3 Vol. 1st and 2nd Editions, and the "Tratamiento médico de urolitiasis-Capítulo" in the *Texto de Terapéutica Médica* del Dr. Ross, Habana, Cuba.

Dr. Sanjurjo has been President of the San Juan County Medical Society, Puerto Rico Medical Association, Puerto Rico Urological Association, the Puerto Rico Chapter of the American College of Surgeons and the Puerto Rican Board of Medical Examiners. In addition, he holds membership in the American Medical Association, Southeastern Branch American Urological Association, the American Urological Association, American Association of GU Surgeons, Society for Pediatric Urology, American Academy of Pediatrics, and the International Urological Association.

His interest and accomplishments outside the field of Medicine are tremendously impressive. He can read, write and speak Spanish, English, French, Italian, German and Greek. He has an active interest in, and considerable knowledgeability in: literature, philosophy, archeology, history, psychoanalysis, gardening, music, photography, the classical arts, auto mechanics and cooking.

At the same time that Dr. Sanjurjo was active in promoting and developing organized Urology in Puerto

From the Department of Urology, Ochsner Clinic and Clinical Professor of Urology, Tulane University.

Presented at the Annual Meeting of the Puerto Rican Urological Association, San Juan, Puerto Rico, November 9, 1973.

Rico, the American Medical Association was actively working through its Council on Medical Education to improve first undergraduate education and later postgraduate and continuing medical education, by means of proper regulation and supervision of all teaching programs within its jurisdiction. This was necessarily a very slow process which actually began within the first two decades of the current century. The first official recognition of the need for formal postgraduate education came when Johns Hopkins Hospital instituted the term *resident* in 1889 to identify the young physician who, having completed an internship, continued his training in a hospital, so as to perfect himself in a special field of Medicine. The flexnor report, in 1910, gave impetus to advancement in the supervision of Graduate Medical Education, and also served to focus attention on education beyond the medical school. The first concrete steps in this area by the Council of Medical Education came with the initial listing of approved hospitals for internship in 1914 and a survey of graduate medical schools in graduate education conducted from 1913 to 1915. This survey indicated that the existing facilities for postgraduate education at that time were entirely inadequate and the demand of physicians for advanced training of high quality not being met. Proprietary schools and postgraduate schools of doubtful character were altogether too plentiful at that time.

In 1917, to help guard against shortcuts to specialization, the ophthalmologists created the first Specialty Board. At about that time, there were approximately 10,000 physicians in the United States who were recent graduates, 6,000 of whom were seeking short-term postgraduate education, and 4,000 engaged in prolonged training directed toward specialization. The original impetus for the creation of the specialty Boards stimulated rapid development in the short space of just three years. By 1920, there were 15 Committees actively preparing the necessary essentials for special examinations and qualifications in as many specialized fields of Medicine. The Board of Urology was created in 1935.

In due time, it became apparent that all training programs designed to prepare young physicians for accreditation by the various Boards required some overall supervision and control, in order to insure uniform high standards of training, so in 1953 Residency Review Committees in the various specialties began to be established, including Urology. At first, they were bipartite, being supported by the Council of Medical Education of the AMA and the specialty Board concerned. Later

on, some became tripartite, as is the case with Urology, by the inclusion of the American College of Surgeons as a third supporting agency. The Residency Review Committees are by far the most valuable and the most powerful agencies that exist to promote and regulate good postgraduate training. The basic requirements for an approved residency training program in Urology adopted by the Residency Review Committee were described as follows:

Residency instruction in Urology should be systematic and progressive in character - under the supervision of a well-qualified urologist for a sufficient number of years. The position of Chief of Service should not be an honorary appointment, but should be held by the urologist best fitted for the responsibility. The Urology Staff should be composed of urologists who are highly qualified in both surgical skill and judgment. It should be well organized and harmonious, with the Chief responsible for the quality of the work done in the department. The Staff should have a real interest in teaching and in the welfare of the residents and must be willing to give the time and the effort required by the educational program.

As could be expected by anyone knowing Luis Sanjurjo, he was fully aware of these developments, kept abreast of the times, and was in the forefront of those who took steps to establish approved residency training programs in Urology. His first effort to do this was when he asked the Medical Director of the San Juan City Hospital, Dr. Roberto Jiménez, to write to the Council on Medical Education of the American Medical Association in 1950 to apply for approval of his urological residency. At that time, he, as Chief of Service, already had a teaching experience of ten years, and had been certified by the American Board of Urology in 1946. His associate chief was Dr. Alberto Mejía. There were three residents in Urology on the service in 1950, Drs. Angel Casanova, Manuel Garrido and Gumersindo Blanco. The first two were graduates of Temple University and the third of Columbia. Each had a one-year residency and was paid \$150.00 per month and maintenance, and each had had a year's internship and a year of Surgery.

The hospital had 16 urological beds, one examining room with two tables, and one cystoscopy room. There were 133 books in the medical library, ten on Urology, and the Journal of Urology. A total of 93 surgical urological procedures, large and small, was done in the hospital in one year, only nine by the residents, and all nine cases were hydroceles. There

were 255 cystoscopies. (In 1972, 1045 major operations were done by the residents on adults and 136 on children).

Unfortunately, this request for approval was declined by the Council on Medical Education of the American Medical Association on the grounds that both the amount of clinical material and the opportunity for urologic surgery by the residents were too limited. Not to be discouraged, a second application was made in 1953 by Dr. José García, assistant medical director of the hospital. By that time, Dr. Sanjurjo had increased his teaching staff tremendously to include Drs. Alberto Casals, Néstor Méndez, Luis Isales, Pablo Curbelo and Esteban García Cabrera, most of whom were Board Certified. The hospital had now become the teaching hospital of the University of Puerto Rico. They had one resident, a young man named Roberto Fortuño, who had begun a three-year residency as contrasted with the one-year residencies being offered when the application was first made in 1950. He, too, was paid \$150.00 a month, and was a graduate of the University of Chicago in 1950. He also taught the students and the nurses.

It should be mentioned that in 1951 another young man, Dr. Benigno Rodríguez-Lucca, had also signed on as an assistant resident for one year at \$150.00 per month, stayed on a second year in 1952-1953, but then went into the Armed Forces, and was away until 1955 before he was able to return to complete residency from July 1955-1956. The program was approved this time (1954) for two residents appointed on an 18-month basis, the only concern being a tendency to pyramidal residency appointments in some departments in the hospital, but this was discontinued in 1954.

Dr. Luis Sanjurjo continued as Chief of Service and Drs. Benigno Rodríguez-Lucca and Roberto Fortuño were on his Visiting Staff. In listing the reasons for approval of this training program, the Council on Medical Education stated that it was by far the best organized service in the hospital. The qualifications of the Staff were excellent, all showing great interest and enthusiasm, and examinations given by the Chief at the end of year were a great help. There were a great amount and variety of clinical material available for teaching and all cases were charity and, therefore, available for teaching. Dr. Sanjurjo himself was des-

cribed as a very able man, who was quite enthusiastic about his training program.

Things went along smoothly thereafter and then in 1965, the University District Hospital Río Piedras was approved for one resident at each level for three years of training. Dr. Bernardino González Flores now comes to the front as Chief of the newly approved University District Hospital. Dr. González Flores also received his training at the San Juan City Hospital from 1956-1959. By that time, the starting salary for residents had gotten up to \$225.00 per month, but it did not stop there because by 1965 it got up to \$350.00.

Eventually, the San Juan City Hospital became known as the Dr. R. López Nussa Municipal Hospital and in 1968 it came time, as it does for all of us, for Dr. Luis Sanjurjo to lay down his burden as Chief of Service. He was succeeded by Dr. Roberto Fortuño and very soon after that there was a concerted movement to develop the magnificent training program which exists today, consisting of a group of affiliated hospitals, the I. González Martínez Oncological Hospital, the Municipal Hospital, the Dr. Rafael López Nussa, University District Hospital and the Veterans Hospital, under the overall direction of Dr. González Flores, with Dr. Roberto Fortuño in charge of the Municipal Hospital and Dr. Luis Isales at the Veterans Hospital. The total program has available 101 urologic beds for teaching by eight Board Certified attending urologists. This affiliated program was provisionally approved in 1970 with four residents at each level, and in 1972 was given fully approval for three years of training for five residents at each level. It was stated by the Council of Medical Education in 1972: "This is one of the very best urologic training programs that we have. It is run very efficiently and smoothly with excellent supervision and abundant material. The physical plant and equipment are excellent. There is adequate pediatric rotation, and the Residents enthusiastic and happy".

It is, therefore, not difficult to imagine the gratification and pride that must reside in Dr. Sanjurjo's heart as he sits back and sees those, who might be called his children, taking the instruction and guidance he gave them when they were young, and developing all of this so magnificently.

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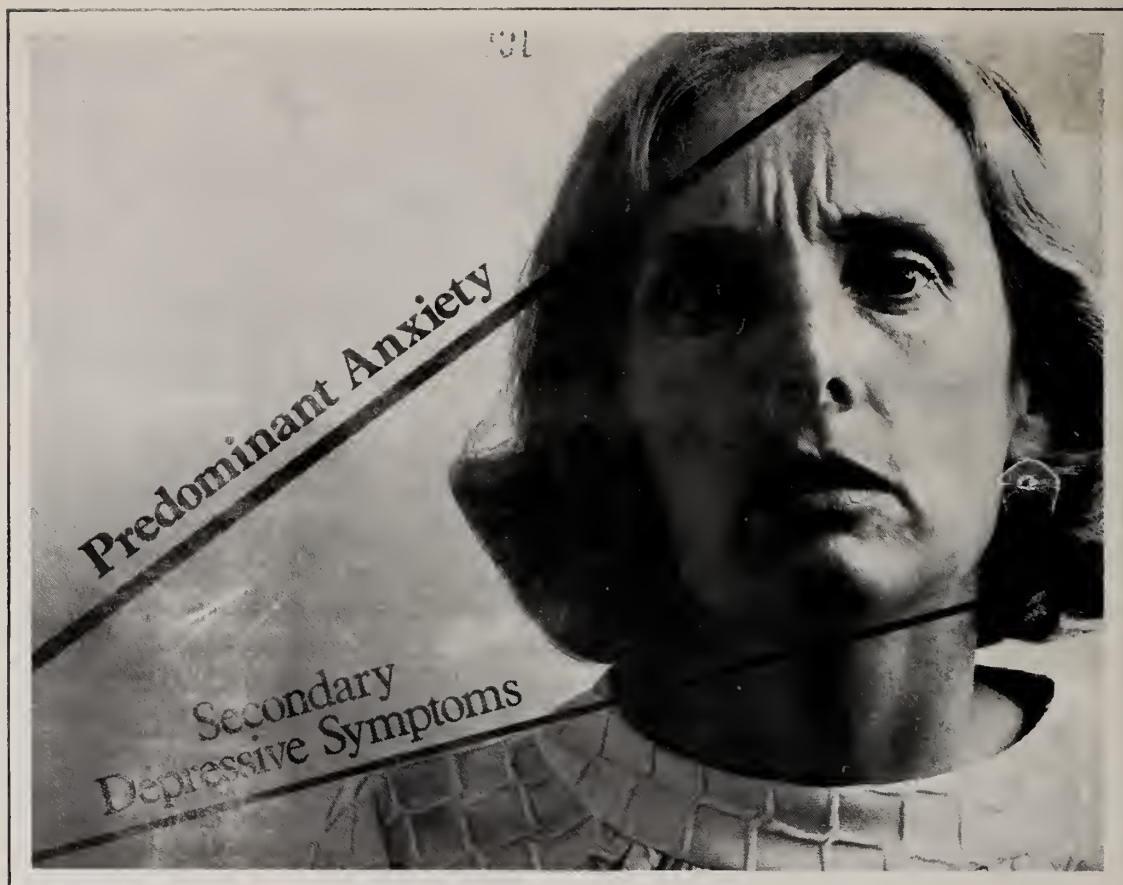
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BOLETIN

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NUESTRA PORTADA: Se honra la portada de este número del Boletín con la foto del Dr. Ramón Ruíz Arnau, el Primer Director que tuvo este Boletín, y quien fuera co-fundador de nuestra Asociación.

Nació el Dr. Ruíz Arnau el 14 de marzo de 1874. Se recibió de Doctor en Medicina en 1897 de la Facultad de San Carlos de Madrid. En 1898 es nombrado Miembro de la Sub-Delegación de Medicina y Cirugía por el Primer Departamento y médico de la Audiencia Territorial. En 1899 se le nombra Director del Auxilio Mutuo. Se dedica en la práctica de su profesión a la Medicina Interna. Práctica en Puerto Rico la primera punción lumbar. Funda los "Anales Médicos de Puerto Rico", y la "Academia de Medicina de Puerto Rico".

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item:	Breast cancer is a major concern of American women, according to a recent Gallup study conducted for the American Cancer Society.
item:	Although aware that early discovery improves the chances of cure, and that BSE can lead to early discovery, <i>fewer than 1 in 5</i> women practice BSE, and <i>only half</i> have an annual breast examination by a physician.
item:	Only 35% of all women polled reported that a <i>physician</i> had ever raised the subject of breast self-examination, and only 24% had received instruction from the physician on how to do it. Even among women who regularly see a gynecologist, only 34% had been instructed on BSE.
item:	<i>But</i> , among women who received personal instruction from their physicians, the overwhelming majority (92%) practiced BSE during the preceding year.

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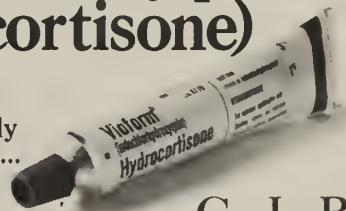
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Course Registration Overleaf →

THE ELECTROCARDIOGRAM AND FRANK VECTORCARDIOGRAM IN EBSTEIN'S ANOMALY

Charles D. Johnson, MD, FACP, FACC

It has been only a little over a hundred years (1866) since Wilhem Ebstein, a German physician of Breslau, described in a 19-year old laborer with palpitations, dyspnea on exertion, facial cyanosis and congestive heart failure, the fascinating congenital anomaly that has memorialized his name (1). Since that time, in the range of 620 or more cases of Ebstein's Anomaly (Disease, malformation) have been reported. The incidence of Ebstein's Anomaly in the general population has been estimated as 1 in 210,000, or less than 1 percent of all congenital heart defects. This would suggest that the prevalence of this condition in Puerto Rico is about 14 cases, although the author suspects that the actual number is greater. The sex ratio is about equal; there has been reported a familial incidence. The average life expectancy is 25 to 32 years, although one case has been documented as surviving to 79 years (2). Congestive heart failure and sudden collapse with no obvious cause are the commonest etiologies of death. Some 15-20 percent of patients die suddenly (3).

In the field of congenital heart disease, the electrocardiogram (ECG) and vectorcardiogram (VCG) have assumed a valuable diagnostic role: for example, although certainly not pathognomonic, the abnormal left axis deviation and left ventricular dominance in a cyanotic patient, and the right bundle branch block (RBB) with a abnormal left superior axis and counterclockwise (ccw) frontal (F) plane QRS loop rotation, point strongly to the diagnoses of Tricuspid Atresia, and Endocardial Cushion Defect, respectively. But, perhaps in no other congenital heart defect has the ECG mastered so important and diagnostic role and presented such characteristic patterns, as that of Ebstein's Anomaly (4). In fact, one series revealed 90 percent characteristic tracings.

This paper will review electrocardiographic and vectorcardiographic aspects of Ebstein's Anomaly, and present the ECG and/or Frank VCG in a group of cases with this interesting malady.

Materials and Methods

Eight cases with definite or probable Ebstein's Anomaly were studied by electrocardiography and/or Frank vectorcardiography. These patients ranged in age from 1 year and 11 months to 35 years; seven were males and one female. In addition to the above mentioned analyses, any clinical and cardiac catheterization data were reviewed. Several parameters of the ECG and VCG were described. The orthogonal leads X, Y and Z were inscribed. The VCG's were performed

using a Sanborn (H-P) VCG instrument (Viso-Scope 780-6A and Programmer 1507A) and the loops were photographed using number 107 Polaroid film. At X1 magnification, 1 cm. equals 0.5 mv; X0.5 mean 2x magnification and X0.2 means 5x magnification. A calibration (0.5 mv) has been photographed in most of the studies. Each tear drop equals 2.5 msec. (4 tear drops = 10 msec. = 0.01 second). The blunt part of the tear drop leads.

Results

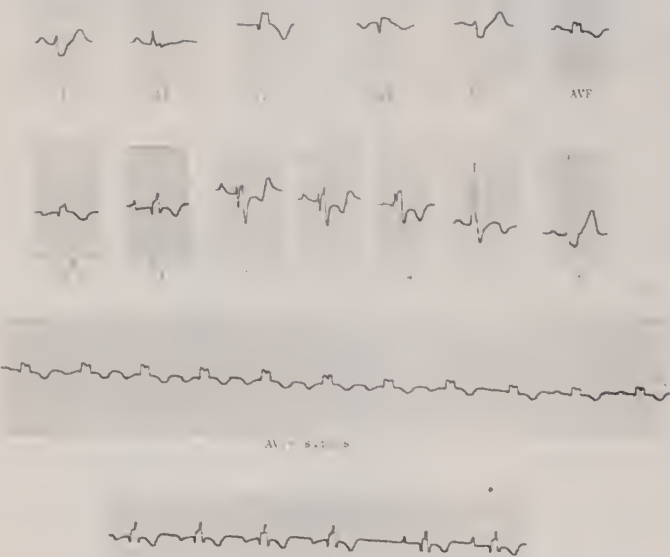
Eight patients were studied. Two patients were cyanotic and another demonstrated flushed tips of the fingers. The family history was positive in one case (uncle had Ebstein's Anomaly with frequent tachycardia). The clinical data is given in Table I; Table II details the ECG data and Table III the VCG findings.

Three patients demonstrated (RBBB) and right atrial enlargement (RAE). This was of a bizarre nature in two, with late slurring of the QRS complexes. One patient had complete left bundle branch block (LBBB), which was present on different studies 8 years apart, with more normal conduction and atrial enlargement on an intervening tracing.

Four patients demonstrated Wolff-Parkinson-White (WPW) patterns; two of these were of type B, as was probably a third (Case 7). Case 7 showed a bizarre incomplete RBBB and RAE. Case 6 also showed an incomplete RBBB. The last case of the WPW patterns (probably type A) was associated with complete LBBB.

The P-R intervals were never over 0.19 seconds (Sec); the QRS durations ranged from 0.09 - 0.19 sec. Three of the cases had right axis deviation (RAD), four had left axis deviation (LAD), and two a normal axis, at one time or another. Case 1 showed low voltage in lead V_1 and Case 2 showed low voltage in general. Q waves in V_1 were exhibited by three cases. The T waves were inverted in the right precordial leads in four cases. Six cases had some type of arrhythmia (including sinus arrhythmia and sinus tachycardia); two demonstrated a coronary sinus rhythm (CSR).

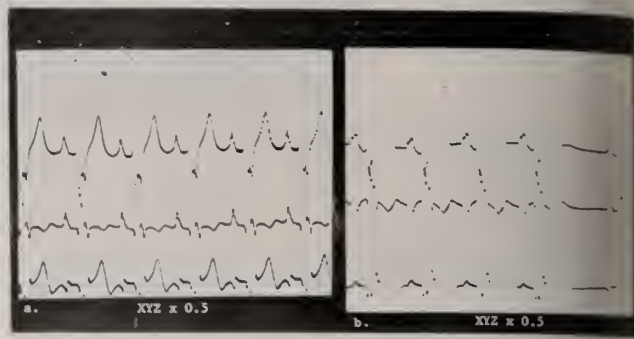
Initial QRS vector loops were abnormal in seven cases, four being oriented to the left and anterior, and three being oriented to the left and posterior.



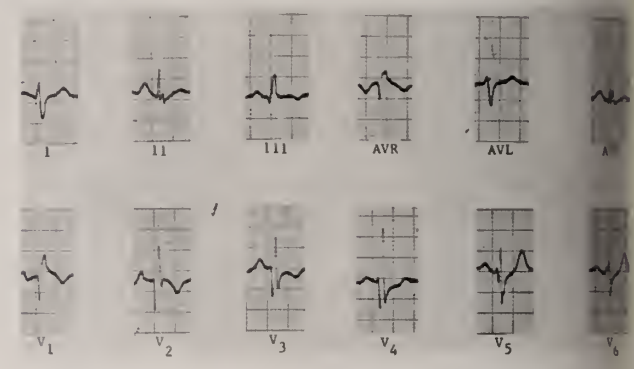
Case 1. Figure 1. ECG. Bizarre complete RBBB. RAE. "Coronary sinus rhythm." Slur or appendage of terminal part of the QRS complex in Lead II 9-14-71.



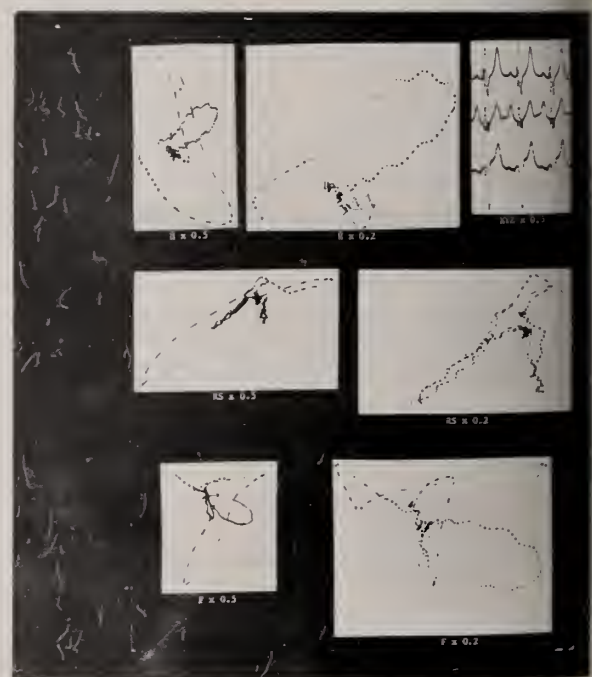
Case 1. Figure 2. VCG.



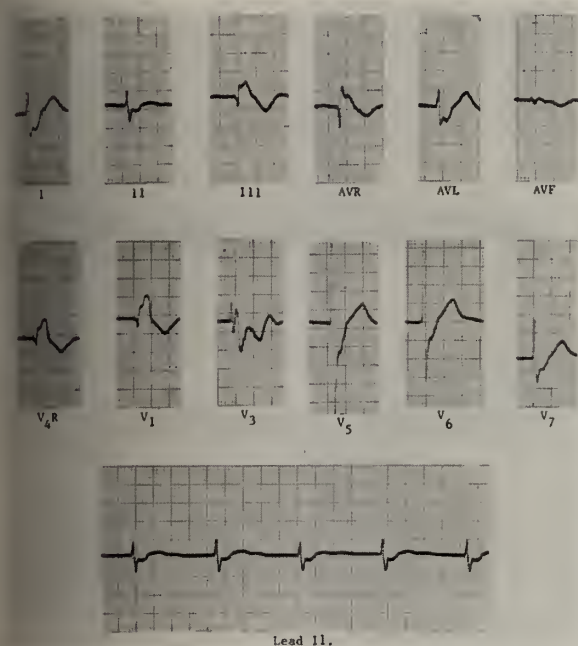
Case 1. Figure 3. VCG. XYZ Orthogonal leads. "Coronary sinus rhythm" in b. P Waves inverted in Lead Y. 9-14-71.



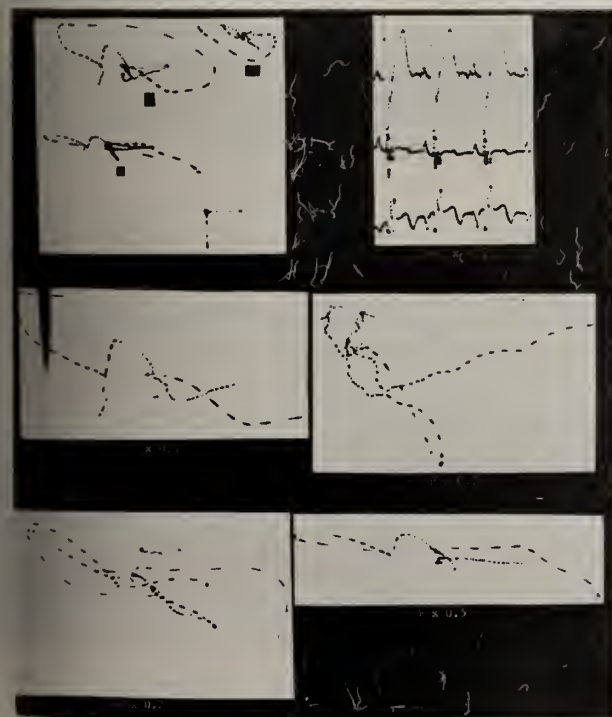
Case 2. Figure 4. ECG. Bizarre complete RBBB. RAE. Slur of the QRS complexes in Leads II and AVF. 7-7-67.



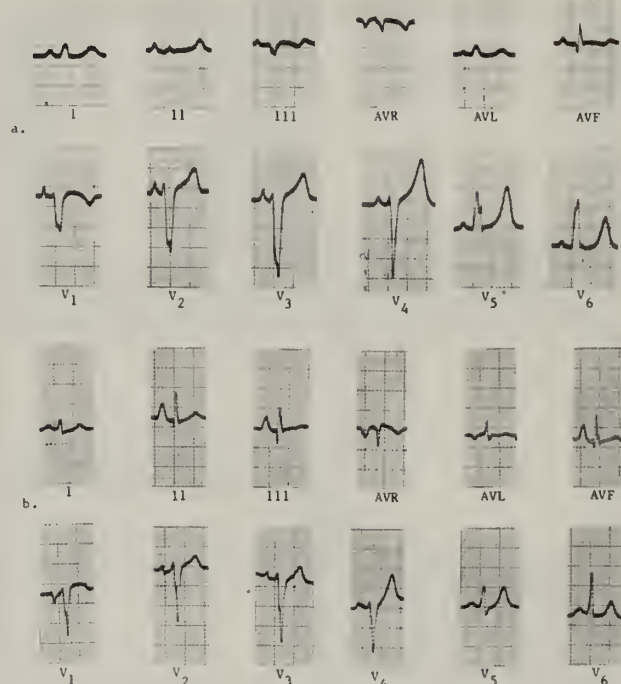
Case 2. Figure 5. VCG. 12-8-67.



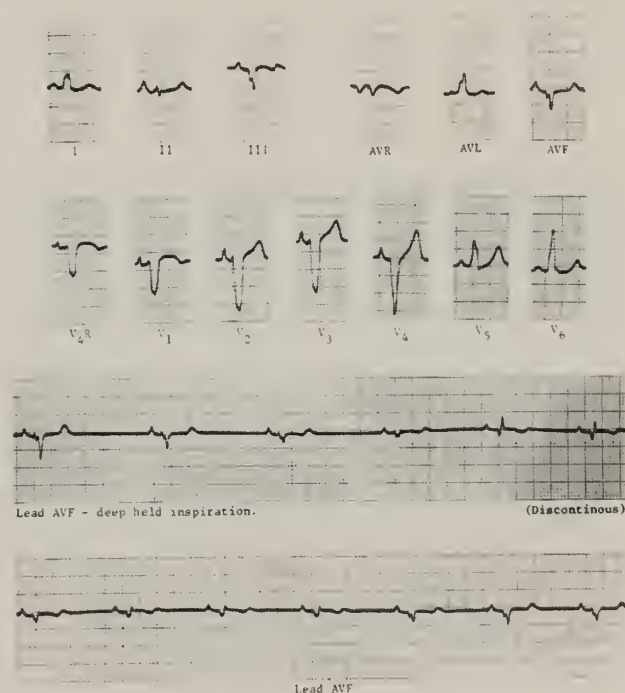
Case 3. Figure 6. ECG. Bizarre complete RBBB. Junctional rhythm. 4-2-71, post-surgery.



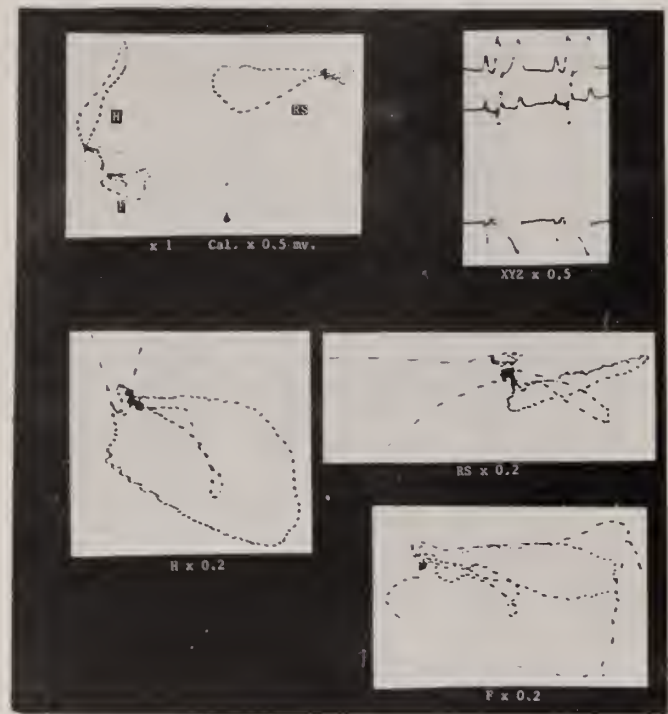
Case 3. Figure 7. VCG. RAE also. 10-22-68, pre-surgery.



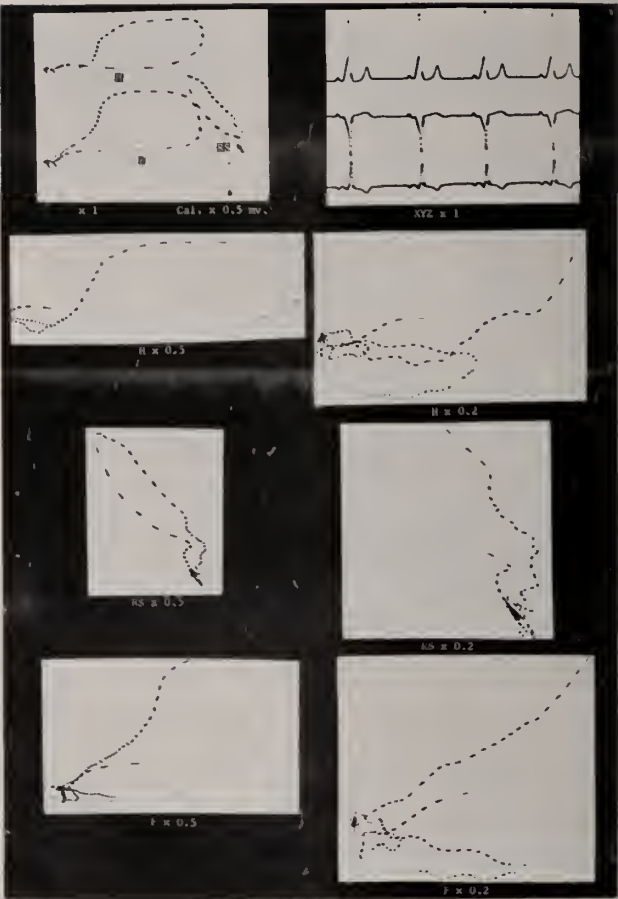
Case 4. Figure 8. ECG. a. Complete LBBB, 11-14-63. b. More normal conduction, RA and LA enlargement. 7-28-69.



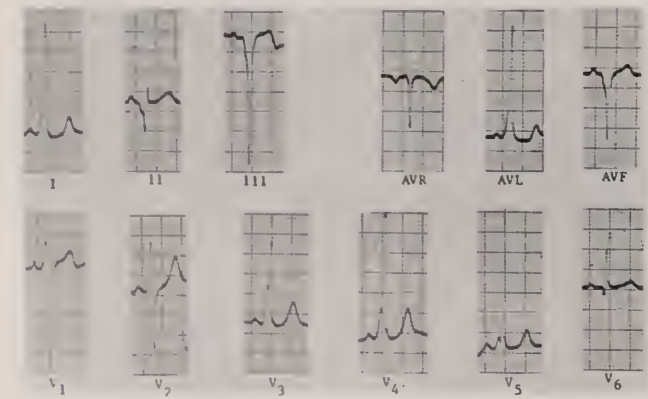
Case 4. Figure 9. ECG. Complete LBBB. Slurred QS complexes in Lead III, and rS complexes in Lead AVF. Change in intraventricular conduction with deep held inspiration. 9-23-71.



Case 4. Figure 10. VCG. 4-30-68.



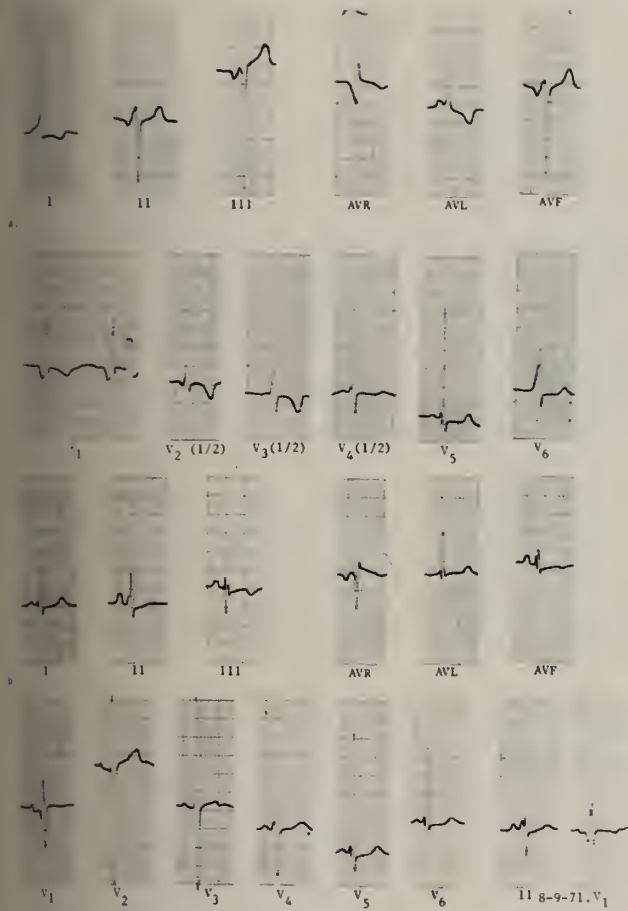
Case 5. Figure 12. VCG. 5-17-68.



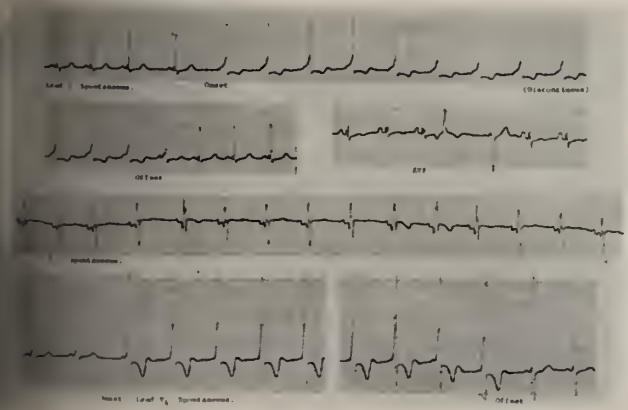
Case 5. Figure 11. ECG. Type B WPW pattern. "QS" complexes in Leads III and AVF.



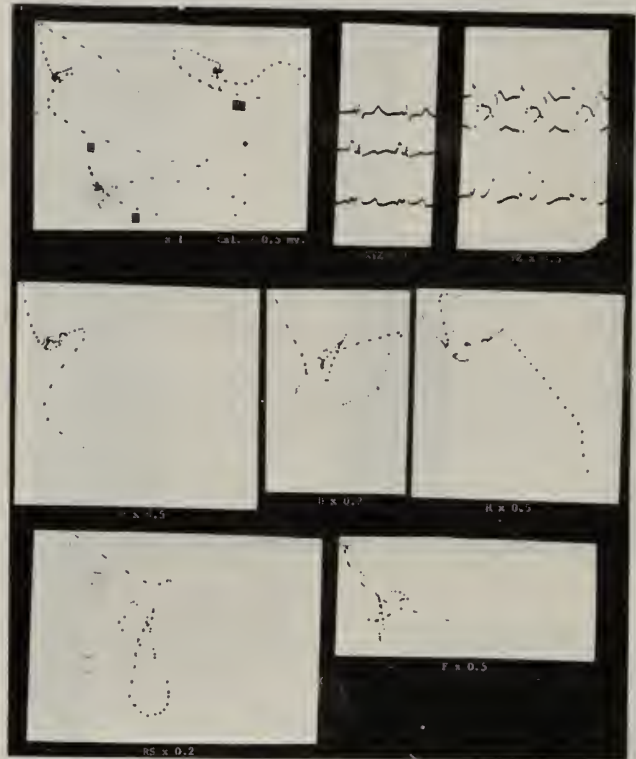
Case 6. Figure 13. VCG. Type B WPW pattern and incomplete RBBB.



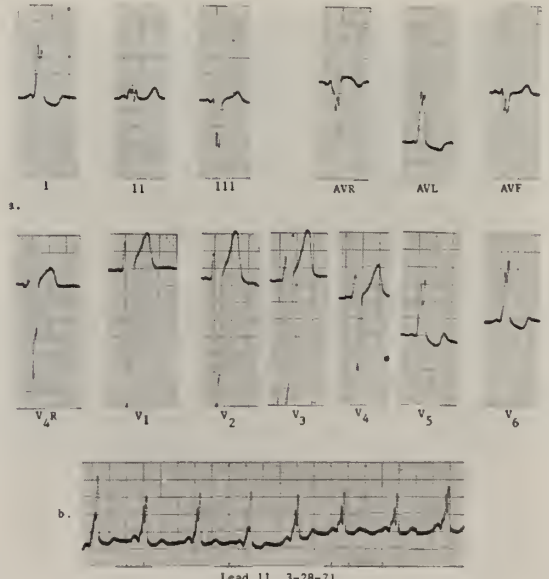
Case 7. Figure 14. ECG. WPW pattern, and a bizarre incomplete RBBB. 8-11-71.



Case 7. Figure 15. ECG. Rhythm strips. Concertina effect. Reciprocal beat in Lead AVF. ? Junctional PB.



Case 7. Figure 16. VCG. "Coronary sinus rhythm". P waves inverted in Lead Y. One H plane loop (3rd picture in 2nd row) suggests a long left, anterior delta wave. 8-11-71.



Case 8. Figure 17. ECG. A WPW pattern plus complete LBBB. 1-20-71.

Discussion

The diagnosis and therapy of Ebstein's Disease may present challenges in the history, the physical examination (especially cardiac palpation and auscultation), in cardiac roentgenological interpretation, in electrocardiography, including endocardial electrocardiography, and vectorcardiography, in the cardiac catheterization laboratory, and occasionally at cardiac surgery, and unfortunately at the autopsy table. However, as has been noted, perhaps in no other congenital heart disease does the ECG offer so much diagnostically.

Previous reports on Ebstein's Disease have emphasized many characteristic electrocardiographic features, as follows (4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18):

1. The basic rhythm is sinus. The rate is normal or slow (in 67 percent of one series) in the absence of an arrhythmia.

2. The QRS electrical axis is normal or right (inferior), usually in the range of $+120^{\circ}$ ($+60^{\circ}$ to $+140^{\circ}$): it can be located from $+10^{\circ}$ to -30° , or occasionally in the -30° to -170° range.

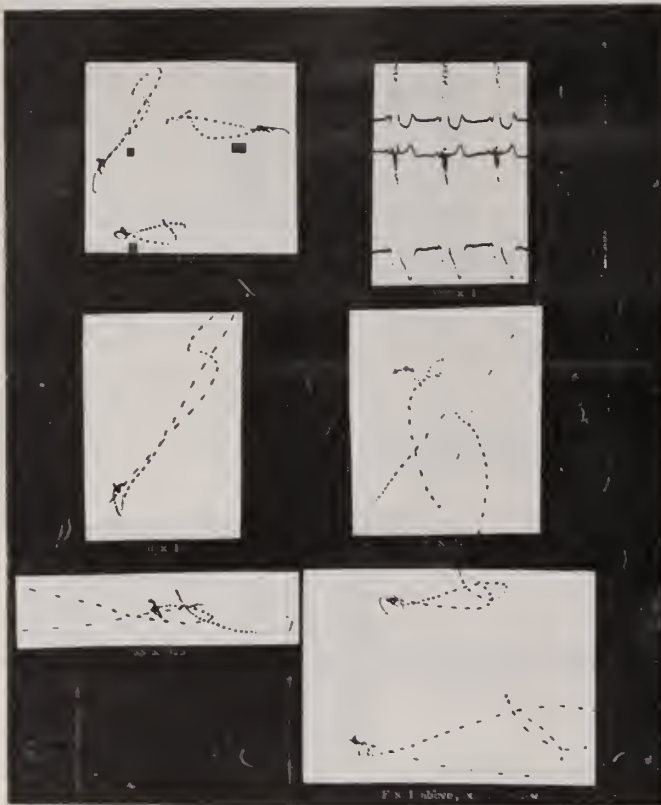
3. P waves which are prominent, tall, peaked, broad, rounded or flattened (of right atrial enlargement) in leads I, II, III, AVF, V_1 -3, in perhaps 70 percent of cases; P pulmonale without right ventricular (RV) dominance. The P wave voltage may be as high as 5 mm. In Burch and DePasquale's cases, the P wave axis was inferior and to the left, usually between $+30^{\circ}$ and $+60^{\circ}$ in the F plane. The maximum height was 4 mm., and breadth, 0.13 sec. Of their 19 cases, 53 percent showed combined atrial enlargement, 32 percent isolated RAE and 15 percent normal P waves.

4. The P-R interval is prolonged, in some 15-25 percent of cases (with or without broad P waves) -0.16 sec. or more (up to 0.3 sec.). A 2:1 AV block was present in one of Simcha's et al 32 cases (12).

5. The QRS complexes are wide, slurred, bizarre, notched or polyphasic (47 percent of Kumar and associates 55 cases), with splintering of the terminal forces. QRS voltage is typically low (95 percent of cases) in the standard and right precordial leads, usually less than 10 mm.; in one series lead V_1 voltage never exceeded 7 mm. in children; in Macruz et al's study the R + S in lead V_1 approximated 0.85 MV (19). The initial forces are low, with the R wave in V_1 measuring a mean of only 2.6 mm., of 2.5 mm. in V_2 and 9 mm. in V_6 (4).

The QRS width is 0.11 sec. or more in 95 percent of cases; it ranged from 0.09 - 0.16 sec. in Genton and Blount's series (4), and up to a maximum of 0.18 sec. in Lowe and colleagues' patients (9).

The S wave is shallow and broad; it may be 0.06 sec. or more wide in lead I.



Case 8. Figure 18. VCG. 1-20-71.



Case 8. Figure 19. ECG. A WPW pattern plus complete LBBB. 9-30-65. Age 21 months.

TABLE I

Case No.	Age (Yrs.)	Sex	Clinical and Laboratory Data
1	23	M	Poor physical capacity. History of "compensated CHF". Cyanotic, FH-O. X-Ray - moderate cardiomegaly with RAE and decreased vascularity. ASD, bidirectional shunt. R-digitalis, procaine amide.
2	19	M	Palpitations, nervousness, tires easily; worked as waiter. History of CHF. Flushed tips of fingers. Hb.-15 gms. Cardiac pacemaker inserted. Prominent visible cardiac impulses; scratchy, superficial sy. m.; dias. m. S ₃ ; S ₄ . V wave. X-Ray- classical; cardiomegaly, RAE. R-digoxin. Diagnosed once as RHD with mitral valve disease.
3	5	M	Dizzy spells. Changing heart m. No. cyanosis, mild clubbing, Sy. m. at LSB, apex; dias. m. S ₃ ; S ₄ ; clicks. Hb. -13.4 gms. X-Ray- moderate cardiomegaly with LVE; ? RVE, LAE. Starr-Edwards prosthetic valve inserted. First thought to have a diverticulum of the RV.
4	35	M	Dizzy spells; "blackout"; paroxysmal tachycardias; m. since birth. Working. Dull red-blue tinge of lips. 1 st HS loud, split; ES; scratchy gr. 2, short, sy. m. at lower LSB and apex; S ₃ ; S ₄ . X-Ray- cardiomegaly with prominent RA and RV outflow tract; box-like; vascularity- normal/low. Hb. -19.1 gms. R- digoxin.
5	19	M	Palpitations and dizziness since age 12 yrs; heart m. since age 6 yrs. ? history of SBE and RF. Does heavy work, sports. Not cyanotic. Gr. 3-4 sy. m. over precordium. Hb.-17.3 gms. X-Ray - cardiomegaly with dominant right side; vascularity- slightly increased; L-R shunt.
6	1, 11/12	F	No symptoms. Heart m. An uncle has Ebstein's anomaly with frequent tachycardia.
7	12	M	Asymptomatic. No cyanosis now, but ? as a child. Heart m. FH-O.
8	7	M	Palpitations; tachycardias; plays well. No cyanosis; forehead prominent. FH-O. Ejection sy. m., harsh, at aortic area, LSB; 2 nd HS widely split, fixed. ? ASD. X-Ray- minimal cardiomegaly; right-sided enlargement; pulmonary flow upper limits of normal. R- digitoxin.

ASD-atrial septal defect. CHF- congestive heart failure. dias.— diastolic. ES-ejection sound. FH-family history. gms-grams. gr.-grade. Hb.-hemoglobin. HS-heart sound. LAE-left atrial enlargement. LSB-left sternal border. LVE-left ventricular enlargement. m.-murmur. RA-right atrium. RAE- RA enlargement. RF-rheumatic fever. RHD-rheumatic heart disease. RV-right ventricle. RVE-RV enlargement. S₃-ventricular sound. S₄-atrial sound. sy.- systolic. yrs. -years. O-negative.

Genton and Blount emphasized a characteristic broad R wave following a normal R wave in leads II and III (delayed activation of atrialized RV) (4).

Incomplete or complete RBBB (atypical RBBB) is present in 75 to 95 percent of ECG's (some 70 percent of cases of Ebstein's anomaly have an associated atrial septal defect). A terminal S wave may occur in V₁ and V₂ rather than an R.

QR complexes (RA-from RA enlargement, or RV cavity morphology) or qRR¹ complexes, with inversion of the T

waves from leads V₁ to V₄ has been considered practically diagnostic for this defect by Sodi-Pallares and co-workers (15). The Q waves over the right precordium may be broad and deep. A Q wave has been found in V₁ in about half of the cases, and in V₆ in 42 percent. Numerous QRS morphologies have been noted in certain leads:

Lead I - RSs¹, R, rS, rsS¹, qRS, RS, Rr¹S, rr¹S.

Lead V₁ - rS, qrs, rSR¹s¹, rR¹s, qrsr¹, qRS, rsr¹s¹, rsR¹S¹, etc.

Lead V₆ - qrS, qRS, R, RS, qR, etc.

TABLE II: ELECTROCARDIOGRAMS

Case No.	P Waves			QRS Complexes					T Waves	Rhythm	Diagnosis - Comments
	Rate	Max. Ht.	Dur. Sec.	P-R Int. Sec.	Axis	Durat. Sec.	L.1 V ₁	R - S Voltage V ₁ - V ₆	L.1 V ₁	V ₆	
1	83	1	.11	.19	R	.15	6	6-7	24	RS	Bizarre CRBBB. RAE. 1° AVB in past. Late slur of QRS in 11. Low QRS voltage. q wave in V ₁₋₂ .
2	108	2.5	.12	.16	R	.12	9	11	9	RS	Bizarre CRBBB. RAE. Slur of QRS in 11, AVF. Low voltage
3	64 100	Tall		R	+153°	.19	14	10	38	RS	Bizarre CRBBB. RAE. q waves in V ₁₋₂ , AVF.
4	60 110 61	2 3.5 2.2	.09 .10 .12	.16 .16 .16	-20° -40° -20°	.11 .10 .11	3 4 4	10 12 9	12 11 12	R RS R	CLBBB. RAE, LAE. Normal conduction. APC. ? WPW in past.
5	70	1.5	.08	.12	-60°	.13	27	33	12	qR	WPW, type B. "QS" in 111, AVF. QR in 11.
6											WPW, type B. "Weird" conduction defect.
7	97 80	2.2	.09	.15	-70° +20°	.09	22 17	16 18	16 22	RS QRs Rs	WPW. pattern. Bizarre IRBBB. QRS complexes are variable.
8	75 87 95	1.2	.08	.09	-25°	.15	16	29	18	R	WPW pattern and LBBB. QRS complexes slurred.

AF - atrial flutter. Af - atrial fibrillation. 1° AVB - first degree AV block. CRBBB - complete right bundle branch block. CSR - coronary sinus rhythm. Dur. - duration. Int. - interval. IRBBB - incomplete RBBB. L - left. LAE - left atrial enlargement. LBBB - left BBB. Max. Ht. - maximum height, MV. NSR - normal sinus rhythm - R - right. RAE - right atrial enlarge. sec. - second WPW - Wolff-Parkinson-White pattern.

TABLE III: VECTORCARDIOGRAMS

Case No.	P Loop	QRS Loop	T Loop	XYZ Leads
1	Large, peaked. Left, ant, sup. and inf. ccw in H and F; cw in RS.	Initial vector left and ant. Loop mostly left and inf. Butterfly in RS. ccw in H, cw terminal appendage.	Left. cw in H, ccw in F.	Z-rSr's' with inverted T. Coronary sinus rhythm.
2	Large. Inf., ant. and left.	Only a small initial ant., left vector. Loop left and post. with an ant., right, slowed late appendage.	Large. Left, post. inf. cw. ST vector.	Y - P large Z - rSR'.
3	Left, anterior, inferior	Initial "septal" vector to left. Loop left, ant., post., right, with a terminal right, ant. slowed appendage. ccw in H, cw in RS and F.	Large. Left. cw in H.	Y,Z- P prominent Z- rsr's'
4	Large. Left, ant. inf. 8 in H.	Initial slur ant. and sup. Post., inf. loop. Mid slowing, ccw in H and RS. cw in F. Afferent limb to right.	Large. Discord ant. ccw in H cw in RS, F. ST vector.	Post., left, slur. LBBB. LAE. RAE.
5	Left, inferior. ccw in H and F.	Loop left, post., superior. Delta wave left and sup. (-70° to 10°). 8-cw in H, ccw in RS,, cw in F.	Left and inf. ccw. No change with exercise.	Left, superior. Y-QS exercise
6		H-initial slurred, weird vector post. and to left; ccw; slight terminal delay to right and post. RS- 8's. Delta sup. ccw. F- delta sup and left. Slight terminal, right, sup. slowing.	Left, ant. and inferior.	Left, inf., post. Delta left and post
7	Large, Left and inf. 8's in H, cw in RS, ccw in F.	Loop left, anterior and posterior. Initial vector post. and left (delta), but loop mostly anterior. ccw in H, and mostly cw in RS and F. One H loop (third in 2nd row) - delta ant. and left.	Left, cw in H and RS: ccw in F.	Left and ant. Slurred QRS's. Y - large P. Coronary sinus rhythm.
8	Left, post., inferior. ccw/8 in H, cw in RS, ccw in F.	Loop large, left and posterior. Initial vector right and ant. Initial, mid, and diffuse slowing. Loop direction changes. 8's.	Ant. and inf. Discordant. ccw in H and F, cw in RS. ST vector ant.	Left and post. LBBB. Slurred, wide QRS's.

ant. - anterior cw - clockwise ccw - counterclockwise 8 - figure of eight inf. - inferior LAE, left atrial enlargement
post. - posterior RAE - right atrial enlargement sup. - superior.

Lead III - rsR¹, QR.

A Q wave in AVR is characteristic.

Different authors have commented on the appearance of an attached, appendage-like QRS complex on the terminal part of the QRS complex, due to slurring or notching of late portions. Michel et al observed a normal R wave followed by a broad wave similar to an atrial wave ending in an elevated ST segment (atrial P), in leads II and III (20).

6. The T wave axis has been located to the left and either superiorly or inferiorly (T upright in I, II, AVL, V₃₋₆; inverted in leads III, AVF, V₁-shallow). The ventricular gradient has been abnormal (5).

7. LBBB has been infrequently encountered (2-5 percent of cases); two of 32 patients in one series demonstrated this (12). It has been noted in childhood and in the older age group; the patient of Adams and Hudson who lived to be 79 years of age demonstrated LBBB (2).

8. Right ventricular hypertrophy (RVH) is uncommon, but is more likely to be encountered in infants; it may coexist with RBBB. A tall R¹ wave was present in the right precordial leads in 2 of 11 patients of Lowe and associates (9). Occasionally a relatively tall R wave occurs when type A WPW pattern exists. Left ventricular hypertrophy (LVH) is not anticipated in uncomplicated Ebstein's anomaly.

9. A pre-excitation pattern, WPW is associated with Ebstein's anomaly in 5-25 percent of cases, in 30 percent of Schieber's group of pediatric cases (11). The first published ECG from a patient with Ebstein's Anomaly showed pre-excitation (21). This pattern may be permanent or intermittent. Interestingly, the WPW pattern is almost always of the type B pattern, as classified by Rosenbaum and associates in 1945 (22). This depends upon the polarity of the delta wave and QRS configuration in the right precordial leads (V₄R, V₁₋₂). In type A the delta wave is upright in the right, and left, precordial leads with a predominant R wave in V₁ and the H plane VCG loop shows an anteriorly directed, slow slurred delta wave (+30° to +120°); type B demonstrates a negative delta wave with a predominant S or QS complex in lead V₁, an absent q wave in V₅₋₆, and the H plane loop demonstrates an initial posterior and leftward oriented delta wave (+30° to -60°). Type B may have a LAD, as can type A, inscribing QS complexes in leads II, III, and AVF, and superior ccw loops with early delta waves in the vectorcardiographic RS and F planes (shows a LAD in the standard leads while resembling a LBBB pattern in the precordial leads).

Not only may bundle branch block and the WPW pattern exist separately in Ebstein's anomaly, they have infrequently been found to be associated in the same patient. Right and left bundle-branch block have been associated with both type A

and type B pre-excitation patterns (16, 18, 23, 24, 25, 26, 27, 28, 29). *

The patient with Ebstein's Anomaly, of Kezdi and Wennemark, developed during cardiac catheterization a type B pre-excitation pattern for a short period as the RBBB pattern decreased or was lost (20). There was a delayed RV pressure rise during the RBBB and a normal pressure rise during the WPW pattern. In the same year, Pick and Fisch described 3 patients with type A pre-excitation, two of whom had associated LBBB, and one had associated RBBB (23). The RBBB was diagnosed by wide and slurred S waves in leads I, AVL, V₅ and V₆, with notching of the R waves, while LBBB produced slurring and notching of the S waves in leads V₁ and V₂, and of the R waves in V₅ and V₆. One patient showed LBBB beats alternating with pre-excitation beats and 1° AV block. A patient with Ebstein's Anomaly in Cabrera and co-workers' series showed a RBBB pattern varying inversely with the degree of pre-excitation (best seen in the VCG loops) (16). Castellanos and associates recorded ECG's and VCG's from 5 patients with type A pre-excitation, associated in 3 cases with RBBB and in 2 with LBBB (24).

In 1963, Robertson and his group documented a 15-year old boy with Ebstein's anomaly and paroxysmal supraventricular tachycardia, whose ECG and VCG presented the rare simultaneous occurrence of WPW, type B, and RBBB. There was a prominent P wave in lead II, a P-R interval of 0.10 sec., a negative delta wave in leads II, III, V₃R and V₁, a positive delta wave in lead I, V₂₋₆; the QRS duration was 0.18 sec (delta wave -0.05 sec, remainder 0.13 sec); there was a broad late S wave in lead I, V₅₋₆, and a broad late R' in AVR. The VCG showed a delta wave moving to the left at the 0° axis and a late right and anterior appendage of RBBB (25). All possible combinations of ventricular pre-excitation and bundle-branch block were illustrated. Type B WPW syndrome with RBBB was also reported by others in 1964 (26). Two of Gasul et al's 16 cases demonstrated pre-excitation; one had a type A pattern (8). The simultaneous occurrence of ventricular pre-excitation (type A), LBBB and delayed A-V conduction in a 67-year old male with heart failure and hypertension (but without Ebstein's Anomaly) has been recorded (27). Schamroth and Krikler published 2 cases in 1967 (also without Ebstein's Anomaly) in which RBBB coexisted with type A and type B WPW syndromes; the type B WPW pattern made the RBBB pattern normal, but type A did not, indicating that the pre-excitation area for type B is located in the RV (anomalous

* This concept is not universally accepted.

pathway distal to block) and that for type A in the LV (28). Five of 37 patients from another series of Ebstein's Anomaly showed WPW patterns. One case was an alternating RBBB with type B, and another case was RBBB with intermittent type A WPW (29).

10. A normal ECG has been recorded occasionally, even in the presence of severe disease. It may be normal in infants. The RBBB is usually present from the beginning, but Schiebler's group observed that the ECG could be normal at birth and progress through incomplete to complete RBBB, the right precordial leads demonstrating progressively decreasing voltage and increasing notching and slurring with age (11).

In infants and children the voltage of the QRS may be as high as 9 mm. and the QRS width as narrow as 0.09 sec. The height is generally lower in adults.

The early study of Sodi-Pallares and Marsico emphasized incomplete or complete RBBB, peaked P waves in leads II and III, deep Q waves in the right and at times left precordial leads, paroxysmal ventricular premature beats, atrial flutter (AF) and atrial fibrillation (Af). Of the 5 cases with Ebstein's anomaly, two had type B WPW pattern (15).

In Vacca and associates' review in 1958 of 86 cases with Ebstein's Anomaly, 61 cases demonstrated RBBB, 6 a WPW pattern and 1 a LBBB pattern (10).

11. Arrhythmias occur frequently (in about 1/3 of cases); these are mainly supraventricular in origin. Supraventricular tachycardia (20-30 percent) and other recurrent paroxysmal tachycardias are frequent; atrial premature contractions (APC), AF, Af, junctional rhythms (JR), atrio-ventricular dissociation (AVD), ventricular premature contractions (VPC's), ventricular tachycardia (VT)-rare, and even atrio-ventricular block (AVB) - 2:1 and complete AVB, have been documented. (See Danaraj and LaBrooy reference in Lowe et al). These may or may not be related to the anomalous conduction of the WPW Syndrome. Frau and Agostoni observed AF or Af in 2.5 percent, ectopic beats in 20 percent, CSR and wandering pacemaker in 1.6 percent, and paroxysmal tachycardia in 6 percent of cases (9). Dysarrhythmias were present in 5 of 11 patients in another series (9). A 64-year patient of Genton and Blount demonstrated on a continuous tracing during a bout of atrial tachycardia, complexes alternating between normal conduction, atypical RBBB and LBBB; between bouts of tachycardia he had either normal conduction or LBBB (4). Seven of 32 cases in a recent report had arrhythmias, two with underlying WPW syndrome (12).

Aberration of conduction during supraventricular tachycardias may mimic atypical RBBB, LBBB and V. T.

Extreme variability, either spontaneous or provoked, of atrial and ventricular excitation is striking. The P-R interval and QRS configuration may vary. The concertina effect may alter the height of the QRS complexes (30). Two patients with

type B pre-excitation and Ebstein's anomaly developed atrial reciprocating tachycardias during cardiac cath procedures (31).

A re-entry mechanism, with reciprocal beating and reciprocating tachycardia (bypass), is the present popular explanation for these arrhythmias in the WPW Syndrome.

Published vectorcardiographic studies in Ebstein's Anomaly are uncommon and less frequent than electrocardiographic studies. (See article of Deglaue and Laurens 1952-reference 11 of Macruz et al). Lowe and associates reviewed these earlier reports (9). In 1956, Gardinar and Kay described VCG's in 4 of six patients with Ebstein's Anomaly and complete RBBB. Cabrera and Gaxiola documented several years ago the classical characteristics of the VCG in 11 patients with this defect. The QRS loop rotation in the H plane was cw in 3, ccw in 6, and figure-of-8 in 2, while the F plane rotation was cw in 8, ccw in 2 and figure-of-8 in one. Nine cases demonstrated initial slurring, but only 2 had typical pre-excitation. Superior, leftward initial vectors were present in 8, and 7 had the terminal, anterior, rightward appendage of RBBB. In their case, previously referred to of RBBB varying inversely with the degree of pre-excitation, the VCG loops delineated well both of these, showing different degrees of each (16). A later report by Cabrera's group of 15 cases of Ebstein's Anomaly (cube system) emphasized similar features; initial slurring was more frequent (47-93 percent by VCG) than typical pre-excitation (20 percent) by ECG. In both studies, the initial q loop segment was usually reduced or absent (18). There was only a small anterior, then posteriorly oriented, leftward vector. Horizontal and F plane loops were illustrated in this publication.

Bilger and Stein's vectorcardiographic studies of six cases in 1961 (see references in article of Lowe et al) noted no particular diagnostic value of the VCG in this condition, in respect to the RBBB pattern or the abnormal initial slurring and orientation (9).

Castellanos and associates published five cases with ECG's and VCG's of type A pre-excitation associated with RBBB in 3 cases and LBBB in two. The pre-excitation characteristic was associated with wide S waves in leads I, II, AVL, AVF, V₄₋₆ and notched R waves in AVR and V₁₋₃ in the ECG, and terminal, right anterior slowing in the VCG, in the cases with RBBB; in those with LBBB, the ECG showed slurring and notching of the peak of the S waves in V₁ or leads I, II and of the R waves in V₅ and V₆, while the VCG showed medial slowing.

Other contributions to the VCG literature on Ebstein's anomaly are those of Pileggi et al in 1964 (See reference 9 of Macruz et al), and those of García-Palmieri, Rodríguez and Girod in the same year (14). Another source observed essentially normal loops except for the late findings of RBBB (8).

The excellent recent publication (1968) of Lowe and associates in 10 patients with Ebstein's Anomaly (cube and Frank systems) emphasized similar loop configurations: Two cases had type B WPW, and one of these had also RBBB. In 7 of the other 8 cases, the initial vector in the H plane was oriented to the right. Gross and bizarre RBBB patterns were recorded in 4 patients, corresponding to polyphasic complexes in the right precordial electrocardiographic leads. Their Tables I and II give detailed characteristics of the ECG's and VCG's in their patients (including P loop characteristics). This communication dealt also with the useful confirmatory value of the intracardiac ECG in Ebstein's Anomaly (9).

An electrovectorcardiographic and radiologic correlation in 12 patients with Ebstein's Disease was made by Macruz and associates (1968), using Grishman's cube system of electrode placement. The duration of the P wave was greater than normal in 53 percent and the P-R interval duration was greater than normal in 73 percent of their cases; the P/P-R segment index was < 1.2 (normal); these correlated with RA overloading and an enlarged cardiac silhouette. Cardiomegaly was associated with an increased QRS duration and a polyphasic, low voltage QRS complex and delayed R¹ in lead V₁; in smaller hearts, V₁ tended to show pure R waves. Enlargement of the right heart chambers was associated with QRS vector loops directed leftward and posteriorly, while lesser cardiomegaly produced H plane QRS complexes of increased duration and rightward predominance (19). The RBBB and 1° AV block may be due to depolarization of the dilated and thinned "atrialized" portion of the RV (pressure); the stretching and thinning of the RV may be responsible for the bizarre, low voltage, polyphasic ventricular complexes in the right precordial leads. Accessory AV conduction tissue has been found by Lev in a case with the WPW Syndrome. The maldevelopment of the tricuspid valve may be another factor for the frequency of type B pre-excitation in Ebstein's Anomaly (9).

Recently, Bialostozky and associates studied 65 cases with this malformation. Findings were similar to those previously documented, plus emphasis on the following: morphologic evidence of RAE, such as large peaked "himalayan" P waves in leads I and II with large P voltage; deep, wide Q waves with negative T waves (in a H. heart) in leads III and AVF; a notched r' or R' in II, III and AVF which manifested vectorially as slurring of the R loop in the F plane; RBBB with qR or qRs complexes in V₆ suggesting LVH; wide P waves in lead II suggesting LAE (by VCG in 5 cases), probably due to delayed transmission of the electrical wave across a large RA; a type B WPW syndrome was seen in 25 percent of the cases; various arrhythmias were frequent (95 percent), the predominant ones being paroxysmal supraventricular tachycardias, while first degree A-V block,

premature beats and ventricular dysrhythmias were less frequently recorded. Twenty one of the patients were studied vectorcardiographically (cube method). Fibrosis in the medial posterior and superior portions of the ventricular septum was found at necropsy (6 cases autopsied), and was considered to be the explanation for the electrocardiographic configuration of QR complexes in leads V₁, V₂, V₃, and the absent or diminished slurred Q loops or initial slurred R loop of the VCG. The diminished muscular areas and/or the pouch of the RV free wall, in the presence of RBBB, were thought to have given rise to the abnormal slurring and low voltage of the S₁ loop in patients without type B WPW (the equivalent of qR, qrR' or qRR' configurations in III and AVF). LVH was diagnosed in almost 50 percent of cases and confirmed in 4 cases. This was suggested by ccw rotation, and leftward and upward deviation in the F plane (in presence of RBBB). RVH in the presence of RBBB was considered in 4 cases, mainly on the basis of increased voltage of the S loop. The anomaly was viewed as part of a generalized disturbance in the development of the right, and in some cases the LV (32, 33).

Atypical manifestations may occur in some cases of the Ebstein's Anomaly. One series revealed a significant portion with QRS complex morphology different from the classical pattern; 26 percent of the patients with RBBB had an R' in V₁ > 1 mv- these patients had a higher incidence of other cardiovascular lesions of hemodynamic importance (ASD, VSD, PDA, PS, hypoplastic MPA). Associated anomalies appeared to modify the typical patterns, and some patients with atypical patterns early, eventually developed the more classical findings. No clear relationship between amplitude of the maximal R or R' in V₁ and the systolic RV pressure was found. Neither was the diagnostic morphology affected by the degree of malformation of the tricuspid valve. The group with RBBB and greater R' voltage in V₁ demonstrated good initial H vectors. Of 3 VCG's that were illustrated, 2 showed ccw superior F plane loops. The 2 patients with type A WPW had VSD and other malformations (29).

Another study of 17 patients of Ebstein's Anomaly noted unusual electrocardiographic changes which included ventricular pre-excitation with a normal P-R interval and LAE (2 patients), WPW with LBBB (1 patient), and incomplete RBBB with broad Q waves suggesting inferior wall infarction in a cyanosed woman whose necropsy revealed a normal LV. RBBB was present in 10 patients and a pre-excitation pattern in 7; two patients demonstrated RBBB with a tall R' in V₁ and LAD (34).

Several other cardiac conditions may present clinical differential diagnostic dilemmas. Tricuspid atresia typically demonstrates LAD and LV dominance. An AV canal defect may be suggested when occasionally Ebstein's Anomaly has LAD and a ccw, superior F plane loop. Uhl's Anomaly shows

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 diphenoxylate hydrochloride . . . 2.5 mg.
 (Warning: May be habit forming)
 atropine sulfate 0.025 mg.

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IMPORTANT INFORMATION: This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline[®] (nalorphine HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.

Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

Dosage and administration: Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

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Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of 1/2 ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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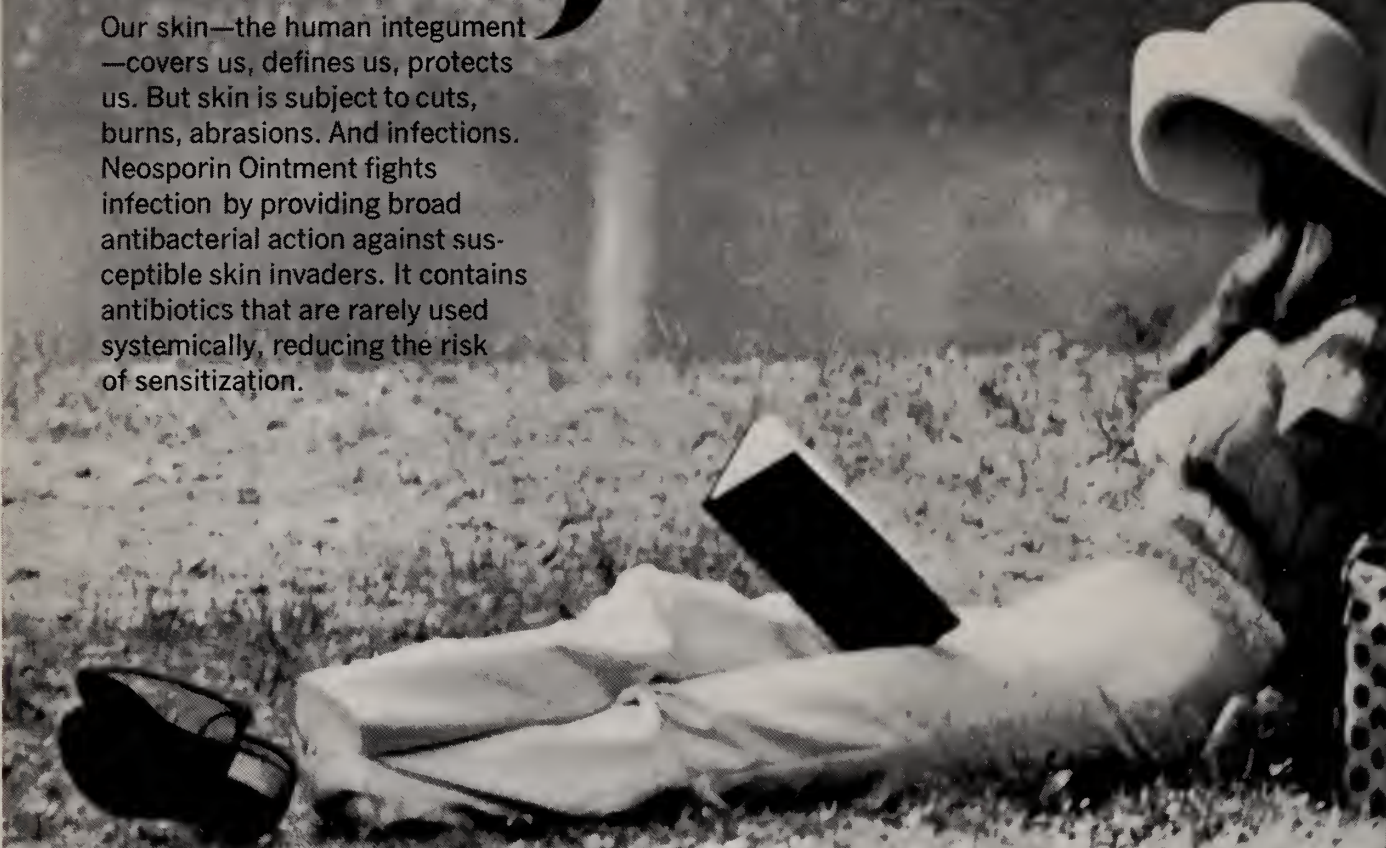
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marked RAE and absence of RV activity, but the QRS forces tend to be left and posterior (LV dominance), and RBBB is not characteristic. Type A WPW may appear as a false RBBB, while type B may appear as a false LBBB pattern. In infants the P-R interval may normally be short and the QRS complex narrower. An inferior infarction might be diagnosed if a WPW pattern with QS complexes exists in leads II, III and AVF. Genton and Blount's article depicted an ECG which was similar to that of Ebstein's Anomaly, but at surgery an ASD and a normal tricuspid valve were observed (4). ASD's may cause abnormal initial vectors. Corrected transposition may produce q waves in the right precordial leads.

The association of bizarre RBBB patterns, RAE, and low voltage, polyphasic QRS or QR complexes in the right precordial leads, especially in a young cyanotic patient, is strongly indicative. Low voltage is otherwise unusual in congenital heart disease. Pre-excitation together with RBBB (and normal to decreased pulmonary vasculature) is practically pathognomonic (9). The value of type B pre-excitation in the diagnosis of Ebstein's Anomaly was appreciated several years ago by Sodi-Pallares (15); however, this may be observed in tetralogy of Fallot, Tricuspid atresia, transposition of the great arteries and coarctation of the aorta. Usually RVH is not found. In myocarditis, endocardial fibroelastosis and myocardiopathy, a prolonged P-R interval, diffuse ST segment and T wave changes and a WPW pattern may be seen. Pericardial effusions may cause low voltage and diffuse ST-T wave changes. Rheumatic heart disease might rarely have a similar ECG except for LAE. Aortic stenosis might be suggested from a misinterpretation of type B WPW as LBBB or LVH. Congenital tricuspid insufficiency may present a similar ECG (11). Initial slurring of the QRS loop which was oriented superiorly and to the left, with terminal slurring of RBBB was suggestive (18). The absence or marked decrease of the Q_H loop may also be noted in the presence of atrial dilatation of congenital or rheumatic heart disease, or in mid-septal myocardial infarction. But the RAE of Ebstein's shows slurring of the Q_H or initial R_H loop (33). The bizarreness of the tracing alone may suggest the diagnosis (5).

In general, the findings in this small group of cases were similar to those previously documented. However, pre-excitation and LBBB patterns were observed relatively frequent.

Summary

The electrocardiogram and vectorcardiogram in the interesting congenital heart condition of Ebstein's Anomaly have been reviewed. An electrocardiographic and Frank vectorcardiographic study of a small group of such patients seen at the University Hospital has been made.

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INGESTION DIARIA DE YODO CON LA DIETA HABITUAL DE LOS HABITANTES DE PUERTO RICO

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Sabida es la influencia que los niveles de la ingesta habitual de yodo de una población ejerce sobre algunas de las funciones vitales de sus componentes. Ese nivel de ingesta puede alterar, a través de la modificación de la función tiroidea de los individuos, desde simplemente el tamaño de su glándula tiroidea hasta el promedio de inteligencia y desarrollo físico y mental de la población (1, 2, 3, 4, 5, 6).

El problema más estudiado es el de las poblaciones con carencia crónica de yodo, con sus consecuencias: bocio endémico (7, 8) y cretinismo (9, 10). Su mejoramiento, en cierto modo, se ha obtenido mediante la adición de un suplemento yodado a la dieta de esas poblaciones (11, 12). El peso de esa deficiencia, en el crecimiento óseo y físico en general, en el desarrollo mental, en la fertilidad, en el tamaño de la glándula, han sido muchas veces analizados, y observadas las variaciones que produce en todas las pruebas habitualmente usadas para el estudio de la función tiroidea (4, 13).

Por el contrario, los posibles efectos de una sobreingesta de yodo en una población no han sido estudiados exhaustivamente, quizás porque al parecer no se traduce en alteraciones patológicas tan evidentes. Sin embargo, trabajos realizados en poblaciones grandes en Japón (14) y en reducidos grupos de personas en Estados Unidos (15), así como otros en Jamaica, aunque aquí hay resultados en controversia, han mostrado que las dietas permanentemente altas en yodo, por lo menos, varían los resultados (4, 16) de las pruebas de que el médico dispone para estudiar la función glandular y por lo mismo, si no son bien conocidas, puede llevar a la interpretación errónea de esas pruebas (13, 14, 17, 18).

En Puerto Rico se han encontrado algunos valores de pruebas funcionales tiroideas distintos a los publicados para otras regiones y, en principio, se postuló que dadas las características de la Isla, su tipo de alimentación y la proximidad del mar a todos sus puntos, esas diferencias podrían ser motivadas por una ingestión habitual alta en yodo.

Por todo ello pensamos que sería de utilidad para la profesión médica en general y en especial para las autoridades encargadas de la Salud Pública, el conocer exactamente los promedios de ingreso de yodo "per capita" en la dieta habitual de la población puertorriqueña.

Este tipo de estudio ha sido frecuente en muchos países en las últimas décadas precisamente para orientar a las autoridades en cuanto a medidas sanitarias y de prevención. Los importantes estudios de Oddie en Estados Unidos, analizan este problema en todo el territorio nacional y publican gráficos con mapas de los niveles de yodinación de la población. Estos estudios no se han hecho hasta hoy en Puerto Rico.

Aceptando la indicación de la Organización Mundial de la Salud (19) de que el organismo está en equilibrio de yodo, siendo la excreción diaria un índice muy útil de la cantidad de yodo que ingiere el paciente, hecho reafirmado por otros autores (20, 21, 22), se decidió medir, en una muestra significativa de la población normal de Puerto Rico con su dieta habitual, la yoduría diaria.

Materiales y Método

De los pacientes que concurren al Centro Nuclear de Puerto Rico y sus familiares y acompañantes, se seleccionaron varios cientos de individuos voluntarios a los que se informó del objeto del estudio y de la prueba complementaria a efectuarse en caso necesario. Todos ellos sin afecciones serias y fundamentalmente sin patología tiroidea o renal, y que no estuvieran haciendo ninguna dieta especial ni hubieran recibido dosis de yodo extraordinarias en forma de medicación, medio de contraste radiográfico yodado, etc. Se les instruyó para que continuaran con su dieta habitual y juntaran orina completa, por separado, de dos períodos de 24 horas sucesivos. Además de reinterrogar a los pacientes sobre la seguridad de la recolección completa, se realizó dosaje de creatinina en todas las muestras de orina para descartar aquellas en que las diferencias fueran tan marcadas que demostraran que las cantidades no eran correctas (23). En general de las dos muestras de orina se seleccionó la de creatinina más alta para ser enviada a determinar el yodo inorgánico total. La determinación del yodo total urinario fue efectuada por el Laboratorio Biochemical Procedures, California. En total se

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TABLA I: INGESTA DIARIA DE YODO EN PUERTO RICO

	Total	Interior Rural	Interior Ciudad	Costa Rural	Costa Ciudad	Total Interior	Total Costa	Total Rural	Total Ciudad
VARONES									
Núm. Casos	50	23	6	4	17	29	21	27	23
Promedio Yoduría	382.4	481.4	309.7	414.8	266.6	445.9	294.8	471.5	277.8
Desv. St.	272.3	339.7	195.8	288.1	136.4	320.2	175.8	328.4	150.4
MUJERES									
Núm. Casos	131	21	18	29	63	39	92	50	81
Promedio Yoduría	293.9	285.7	357.8	310.4	270.8	319.0	283.3	300.0	290.1
Desv. St.	169.1	199.1	153.0	181.6	154.9	180.7	163.8	187.6	156.8
TOTAL									
Núm. Casos	181	44	24	33	80	68	113	77	104
Promedio Yoduría	318.4	388.0	345.8	323.1	269.9	373.1	285.4	360.2	287.4
Desv. St.	207.7	295.4	161.5	194.5	150.3	255.7	165.4	257.6	155.5

TABLA II: PORCENTAJE DE YODO EN AGUA DE CONSUMO

COSTA		INTERIOR	
Fajardo	6 ugr/litro	Utuado	3 ugr/litro
Aguada	8 ugr/litro	Las Piedras	5 ugr/litro
Toa Baja	16 ugr/litro	Corozal	8 ugr/litro
Hatillo	16 ugr/litro	Juncos	9 ugr/litro
Loíza Aldea	22 ugr/litro	Ciales	10 ugr/litro
Miramar	38 ugr/litro	Naranjito	12 ugr/litro
Río Piedras	74 ugr/litro	Aibonito	60 ugr/litro
Boquerón	175 ugr/litro		
Promedio	44.4 ugr/litro	Promedio	15.3 ugr/litro
Promedio General 30.8 ugr/litro			

obtuvo la yoduría de 181 personas. Las edades variaron entre 5 y 72 años habiendo en el grupo solamente 6 niños de entre 5 y 13 años. El promedio de edad fue 36.6 años. Correspondieron 131 muestras a mujeres y 50 a hombres. De todos, 113 habitaban en zona costanera y 68 en el interior de la Isla, siendo 104 de área urbana y 77 de área rural. Correspondiendo para región costera 80 a urbanizaciones y 33 al campo y para el interior 44 al campo y 24 a la ciudad. A 131 de ellos se les hizo captación de 1311.

24 a la ciudad y 44 al campo.

1311.

Siendo opinión general que la mayor parte del yodo ingerido depende de la cantidad del yodo del agua de consumo (8), se realizó el dosaje de dicha agua en 15 muestras de diferentes sectores de la Isla. Correspondiendo 8 a la costa y 7 al interior.

Resultados

El análisis estadístico de los resultados muestra una

TABLA III: CAPTACION ^{131}I POR REGION

	Interior		Costa	
	Rural	Ciudad	Rural	Ciudad
Núm. de Casos	26	18	30	56
Promedio Captación	17.4%	17.7%	18.7%	19.1%
Desviación Standard	± 8.5	± 8.8	± 5.9	± 10.1

TABLA IV: RELACION ENTRE INGESTA DE YODO Y CAPTACION, POR SEXO Y REGION

	Varones	Mujeres	Interior	Costa
Núm. de Casos	23	108	44	86
Ingesta Promedio de Yodo	337.4 ugr \pm 146.8	297.9 ugr \pm 172.7	304.3 ugr \pm 112.6	299.4 ugr \pm 172.7
Captación Promedio	16.2% \pm 6.2	19.0% \pm 9.1	17.5% \pm 8.5	19.0% \pm 8.9
Coefficiente de Correlación	0.4571	- 0.3311	-0.1519	0.0576
r^2	0.2089	0.1096	0.0231	0.0033

diferencia a favor del yodo ingerido por la población rural sobre el de las áreas urbanas y de la población del interior sobre la de la costa. Como puede observarse en la Tabla I esas diferencias se mantienen en el mismo sentido en las subdivisiones realizadas en el estudio, pero dada la magnitud de las variaciones individuales reflejadas en las desviaciones "standard", estas diferencias no resultaron estadísticamente significativas.

El agua que se consume en la Isla dio para 15 muestras un promedio de 30.8 ugr/litro. Las correspondientes a la costa contenían 44.4 ugr/litro de yodo y las del interior 15.3 ugr/litro (Tabla II).

La captación de ^{131}I del grupo estudiado fue de 18.5 ± 8.7 , algo por debajo del publicado por los autores de este trabajo con colaboradores hace 8 años (24). La captación promedio obtenida para los diferentes grupos por área de vivienda pueden verse en la Tabla III.

Si se correlaciona la ingesta de yodo del grupo que tiene captación con los valores de ésta, se tendría de acuerdo a sexo o a región una tendencia a mostrar una relación inversa entre captación e ingesta. Sin embargo los valores obtenidos para el coeficiente de correlación y el r^2 indican que la diferencia en esos casos no llega a ser estadísticamente significativa. Ver Tabla IV.

Discusión

Aunque no se ha determinado exactamente qué ingesta de yodo mantiene el individuo en condiciones óptimas de salud, se han indicado varias cifras para ello. El mayor énfasis, también en este caso, ha sido dado en referencia al límite inferior capaz de mantener al paciente sin bocio y en condiciones fisiológicas adecuadas. Algunos de los límites pueden citarse de acuerdo a los autores que los han

TABLA V: INGESTION DE YODO MINIMA NECESARIA

Bard (25)	100 ugr diarios
Cecil (26)	40 ugr diarios
Anderson (27)	3 ugr diarios/kgm peso: 210 para 70 kgm
Food and Nutrition Board of the National Research Council (28)	110-150 ugr diarios
Eggenberger (29)	1-2 ugr diarios/kgm peso; 70-140 ugr/70 kgm
McClendon y Hathaway (30)	20 ugr diarios
Orr y Leitch (31)	15 ugr diarios

presentado. Tabla V.

Los valores obtenidos en este trabajo para Puerto Rico demuestran una dieta altamente yodada aunque no se alcancen las cifras mencionadas para Japón o algunas regiones de Estados Unidos. Comparándolo con el mapa de consumo presentado por Oddie (13), Puerto Rico estaría a nivel de una gran área que comprende parte de la costa del Pacífico, el centro y parte del sureste, cuya ingestión es de 308-391 ugr/día.

Esta relativa saturación de la glándula tiroidea por yodo en la población explicaría los resultados obtenidos en algunas pruebas de función tiroidea entre los que pueden mencionarse: a) la captación baja del ^{131}I cuyo promedio en San Juan es de 25.3 ± 8.4 (24); b) pacientes clínicamente eutiroideos con otras pruebas normales y captación aún menor de 5 por ciento, como se ha mencionado en algunas áreas de Estados Unidos (17, 32); c) el nivel plasmático de yodo orgánico ^{131}I cuyo valor promedio es bajo y no significativo para descartar hipertiroidismo. (Lo mismo puede decirse de la relación de conversión de yodo ^{131}I (33) que también por mucho tiempo y desde su enunciado por Clark, eran conocidos como muy fieles en diagnóstico de hiperfunción). (34, 35, 36, 37, 38, 39, 40, 41).

Se dispone del informe personal de un miembro del Departamento de Patología del Centro Médico de Puerto Rico, de que la glándula tiroidea de pacientes sin signos clínicos de patología glandular, pesada en autopsia, pesa un promedio de 13.9 ± 3.7 gr para 63 casos (42); peso por debajo del presentado por los libros clásicos, que va de 20 a 35 gr (43, 44, 45). Podría pensarse que si en zonas de carencia crónica de yodo el organismo se defiende, en parte, hiperplasiando el

tejido tiroideo y dando origen al llamado bocio endémico, en zonas de ingesta alta de yodo la menor necesidad de tejido glandular funcionando mantendría glándulas normales en tamaño menor del aceptado como normal en otras zonas.

Este cuadro general es opuesto al descrito por uno de nosotros con colaboradores en un trabajo realizado en Buenos Aires, zona de baja ingestión yodada aunque no a niveles de producir bocio endémico (46). Con una yoduría diaria promedio de 87.7 ugr/día siendo el agua de consumo con 12.0 ugr/l de yodo promedio. La captación a las 24 horas es de 45.8 ± 12.9 y un porcentaje importante de la población tiene un ligero aumento del tamaño de la tiroides. Esa deficiencia muy aumentada, se encuentra en zonas de bocio endémico (8).

Un hecho más difícil de explicar es el porqué las poblaciones del interior de la Isla, montañosas aunque sin grandes alturas, ingieren un promedio mayor de yodo que las poblaciones costeras marítimas, cuando éstas tienen más yodo en sus aguas.

Si nos referimos a los contenidos del agua en general se observan niveles regularmente altos, aunque al hacer la diferencia entre costa e interior los niveles son evidentemente más altos en aquélla. Hecho que era de esperar, pero que muestran que los promedios de ingestión total no dependen fundamentalmente del aporte recibido con el agua potable de consumo sino también de otros elementos de alimentación habitual.

Una de las causas posibles sería una diferencia en el consumo de sal común. La que se utiliza en la Isla es recibida de Estados Unidos y está yodada en su gran mayoría. Otra causa podría ser una diferencia en la dieta. En el interior se

consumen más frutas y verduras frescas de cultivo local y bacalao seco lo que aumentaría quizás la cantidad de yodo.

En el grupo total se ha hallado también una ingestión mayor en 30 por ciento en los hombres que en las mujeres. Esta diferencia coincide con la mencionada por Oddie en Estados Unidos que es de 34 por ciento (31). Este hecho puede incidir variando en algo el promedio que se presenta aquí sobre el total en Puerto Rico. La población estudiada incluye 50 hombres y 131 mujeres. Ese promedio de mujeres sobre hombres puede haber bajado en algo el valor hallado. El promedio general para un grupo con igual número de hombres que de mujeres según un estimado estadístico sería de 358.0 ugr/día.

Este estudio es útil como información general y puede justificar estudios más completos y abarcadores de la fisiología y patología de la tiroides en la Isla para tratar de ver si las características que se hallan en Puerto Rico pueden o no estar relacionadas con la ingesta crónicamente aumentada de yodo.

Resumen

Con el objeto de buscar el motivo de algunas características de las pruebas de la función tiroidea en Puerto Rico, se midió la yoduria en un número significativo de individuos mantenidos en su dieta habitual.

Aceptando la yoduria como proporcional a la ingesta diaria de yodo, se obtuvo como promedio para la población total una ingestión de 318.4 ugr diarios. Se hicieron los cálculos de acuerdo a la zona en que habitaban las personas estudiadas obteniéndose para la población rural en el interior de la Isla 388.0 y en la costa 323.1 y para la urbana en el interior 345.8 y en la costa 269.9.

Se discute la relación posible entre esos resultados hallados en la ingesta de yodo habitual y los resultados de pruebas funcionales tiroideas y lo que sucede con éstas en regiones con una ingesta distinta.

Summary

With the purpose of finding the motive of some characteristics of the tests of thyroid function in Puerto Rico, the urinary iodine excretion was measured in a significative number of individuals maintained on their usual diet.

Accepting the urinary iodine excretion as proportional to the daily intake of iodine, it was obtained as an average for the total population an ingestion of 318.4 ugr daily. Calculations were made in accordance to the area the studied persons inhabited, obtaining for the rural population in the interior of

the Isle 388.0 and on shore 323.1, for the urban in the interior 345.8 and on shore 269.9.

The possible relation between the results found in the daily iodine ingestion and the results of functional thyroideal tests and what happens with them in regions with different ingestions is being discussed.

Reconocimiento

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Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.



Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

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Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

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How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, espe-

cially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests

advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

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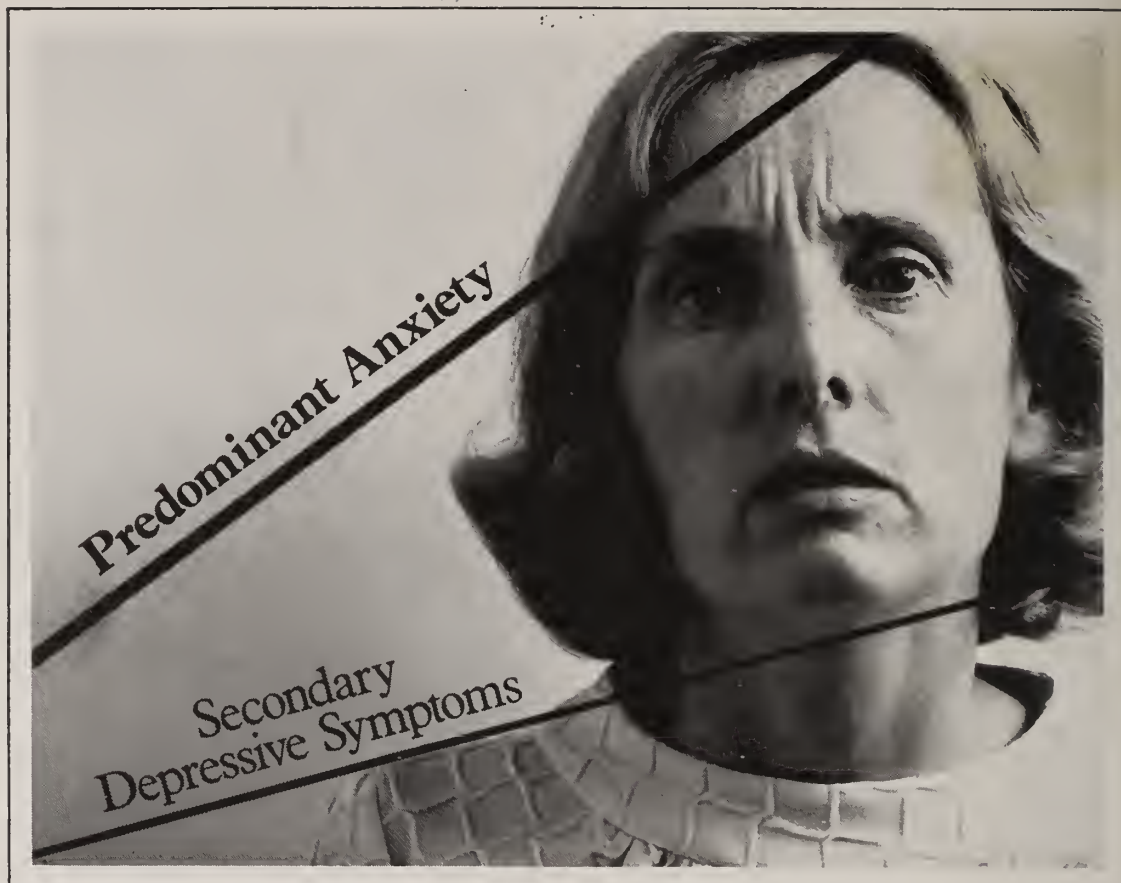
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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive dis-

orders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant

medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

JUL 30 1974

When you determine that the depressive symptoms are associated with or secondary to predominant anxiety in the psychoneurotic patient, consider Valium (diazepam) in addition to reassurance and counseling, for the psychotherapeutic support it provides. As anxiety is relieved, the depressive symptoms referable to it are also often relieved or reduced.

The beneficial effect of Valium is usually pronounced and rapid. Improvement generally becomes evident within a few days, although

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symptom complex to Valium[®] (diazepam)

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal

or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred

vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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In the presence of systemic infections, appropriate systemic antibiotics should be used.

Usage in Pregnancy

Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been established. Therefore, they should not be used extensively on pregnant patients in large amounts or for prolonged periods of time.

PRECAUTIONS

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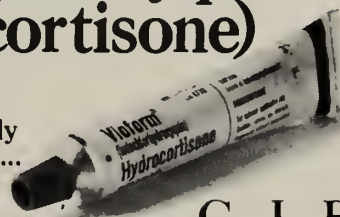
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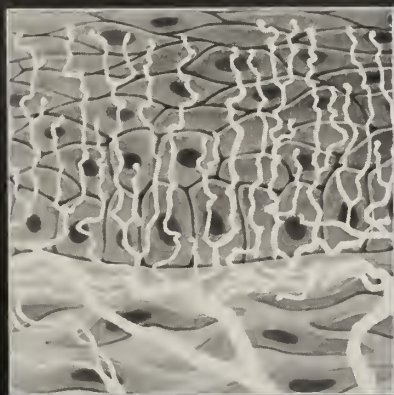
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THE NEW DOCTRINE AS TO PHYSICIAN RESPONSIBILITY IN PUERTO RICO: THE MEANING OF THE *OLIVEROS* DECISION

John L. Simon, MD, LLB

In February 1973, in the case of *Oliveros v. Abreu et al.*, the Supreme Court of Puerto Rico announced a new jurisprudential doctrine for evaluating professional care in malpractice suits, thus superseding the doctrine that had prevailed in Puerto Rico since *Rivera v. Dunscombe* in 1952. In reality the supplanted doctrine was much older: it had been formulated in Massachusetts in the 1880's. According to it, the physician was only obliged to give to his patient such attention as was generally employed for similar cases by the other physicians in the community. Before we discuss the new doctrine let us take a look at the facts of the case that provided the occasion for its enunciation.

A seven-year-old girl died an hour or two after a tonsillectomy. Her parents sued the operating surgeon and the hospital. In the lower court the defendants were successful; the suit was dismissed. Indeed, the defendants were too successful, because the Supreme Court of Puerto Rico on revision found that the lower court's opinion, while inaccurate as to fact, was so tendentious in its support of the defendants — it even labeled the fatal operation a success — that the hand of defense counsel in its preparation was clearly visible. All of which merely demonstrates that in law, as in so many other pursuits, one should not push his advantage too far.

The child had been admitted to the hospital 23 June 1964 at 6 A. M. The operating surgeon had not seen her the day before, nor did he see her on the day of operation until she was brought to the operating room. There is controversy as to whether the requisite preoperative examinations were made, but it is clear at least that they were neither carried out the day before the operation nor while the child was in her room.

After the operation the child was taken to her room, but the surgeon contradicted himself as to just how, whether he carried her or whether she went on a stretcher. The child's mother was in the room. It was explained to the mother and to the practical nurse of the floor how the child should lie in order to be able to breathe. The child was left under the immediate care of her mother and of the floor nurse. The

doctor also was inconsistent as to just how long he remained in the hospital after the operation, whether it was about half an hour or in the neighborhood of three quarters to an hour.

About 10:15 A.M. more or less the practical nurse of the floor notified the operating room nurse that the child had gone bad. The latter ran to the room and found that the child was cyanotic and that she was not breathing. She called the doctor on duty who came and attempted to save the patient. The operating surgeon was notified and he came, as did the anesthesiologist; both of the latter were in their office in town when called. In spite of the efforts made in her behalf, the child died. The parents sued the operating surgeon and the hospital for damages. Both sides to the legal controversy stipulated that the child's mother, had she testified, would have stated that she had seen the operating surgeon a month before the day of the operation; that she did not see him the day before the operation; and that if she had been instructed to hospitalize the child the day before the operation she and her husband would have done so.

The Supreme Court, moreover, in a lengthy and detailed section of its decision, makes clear that the hospital records presented in evidence as those of the patient were in part those of another patient who had been admitted to the hospital the day before. The records presented had been altered.

The Supreme Court then cites various of the Hospital Regulations set out by the Secretary of Health under the authority of law. These include that hospitals shall maintain complete and exact records of each patient from admission to discharge: this was not done in this case. After operation the surgeon shall write in the patient's record a complete description of the operative technic, findings, etc.: this was not done in this case. The patient's record should include among other things the date of admission: this was not reliable in this case. Patients who are under the influence of general or spinal anesthesia shall be attended constantly by a nurse until they recover consciousness or until the effects of the anesthesia have passed: in this case there is a serious question as to whether the child was left alone with her mother while still under the influence of the anesthesia. Operations shall not be carried out under a spinal or a general anesthetic nor is a general anesthetic to be administered until after the performance of a physical examination, including the chest for respiratory infection and cardiac disorder, and a urinalysis for

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Requests for reprints should be directed to John L. Simon, M. D., P. O. Box 6102, Loíza St. Station, Santurce, Puerto Rico 00914.

albumen and sugar. The result of these examinations is to be noted on the patient's hospital record: in this case it is doubtful whether these examinations were made. Moreover, the law that created the Institute of Legal Medicine provides that deaths occurring within twenty-four hours after the hospitalization of a patient are to be reported immediately to the police or to a judge or district attorney who will obtain the services of the medical examiner. The latter shall investigate the cause of death. Failure to report such deaths constitutes a public offense: in this case the law was disregarded. The child died the same morning she was admitted to the hospital; no autopsy was made.

Such, in brief, are the facts of the case and the relevant law, as the Supreme Court sees them. The Court then reviews a number of its previous decisions and mentions the old rule of the locality or community adopted for Puerto Rico in 1952 in *Rivera v. Dunscombe*. The Court points out that even in its 1952 enunciation the rule was somewhat qualified in the sense of making it more demanding upon the professional, and moreover that for years the rule had been under criticism for its seeming condonation of poor or negligent practice if such prevailed in the community. It was to avoid this trap that the qualification had been immediately added to the community rule when enunciated in *Rivera v. Dunscombe* to the effect that the doctor should not have acted "negligently, with carelessness or want of skill."

In other jurisdictions the community rule was amplified for like reasons to provide for comparison with similar communities. This still left the plaintiff with the burden of proof as to what constituted a similar community, and the plaintiff also faced the reluctance of doctors to testify against their colleagues in similar communities. Returning to the matter of Puerto Rico, in *Sáez v. Municipio de Ponce*, 84 D. P. R. 535 (1962) the Court noted that the community standard had evolved as a result of advances in means of communication and of the greater facilities that now exist for doctors to keep up to date.

In *Pérez v. E. L. A.*, 95 D. P. R. 745 (1968) the Supreme Court infused the community rule with new content, saying that when the professional practice prevailing in the community was used as a standard, it did not mean poor practice but that practice which met recognized professional requirements, professionally acceptable practice in a certain place and time. In *Reyes v. Phoenix Assurance Co.*, 16 October 1972, the new way of applying the community standard is clarified.

But now in *Oliveros* the Supreme Court proceeds frankly to abandon the community standard, with or without

qualification or amendment. Writers and Northamerican courts attribute the community standard to *Small v. Howard*, a nearly century-old Massachusetts case. Communication was not then what it is now, and rural isolation was a real thing. But today doctors have ample opportunities to keep abreast with professional journals, meetings, lectures, courses, etc. Acceptance of inferior practice is no longer justified when the generality of practice is good or excellent. The more progressive Northamerican jurisprudence is abandoning the old standards of the community and similar communities.

Our Supreme Court cites three cases from the continental United States, *Brune v. Belinkoff*, *Douglas v. Bussabarger* and *Hundley v. Martínez* of 1967 and 1968. In *Hundley v. Martínez* the operating ophthalmologist had damaged the patient's eye; he used the community standard as a defense. The court in that case rejected his defense on the basis of the transformation in means of communication and transportation of the past century and said there is only one medical community in the entire country. The court accordingly admitted the expert testimony of a New York ophthalmologist although the events had occurred in Charleston, West Virginia.

In *Douglas v. Bussabarger* the court stated that there is no reason at present to continue applying the community standard. The court commented on the difficulty plaintiffs have in these cases to obtain medical experts to testify as such, referring to the so-called "conspiracy of silence."

Brune v. Belinkoff was a Massachusetts case, the same as *Small v. Howard*, and rejects the community standard of the latter 88 years later, as no longer in accordance with present conditions.

The Supreme Court of Puerto Rico in *Oliveros* finds the three cited cases persuasive and well reasoned. The Court does not intend to demand requirements or conditions such as to make medical practice in Puerto Rico impossible or economically prohibitive, but is constrained to bring our case-law into consonance with present-day progress. Accordingly, the minimal legal standard in cases of malpractice in Puerto Rico will be that generally recognized by the medical profession. The community rule is revoked.

Medicine is at once a science and an art. Allowance must be made for honest error of judgment. Error of judgment in diagnosis is acceptable as a defense (1) when there is a reasonable doubt about the patient's condition; (2) when recognized medical authorities are divided as to what diagnostic procedure to follow; or (3) when the diagnosis is made after a conscientious effort. As to treatment, the defense of error of judgment is acceptable only when recognized medical authorities are in disagreement.

In the present case, that of *Oliveros*, the Supreme Court

reverses the decision of the lower court and finds the surgeon negligent. Before operating it was his duty to assure himself that the necessary preoperative examinations had been carried out. Moreover, the Court concludes that he failed to fulfill his duty after the operation in that he left the hospital without the patient's having recovered consciousness. The Court also adjudges the hospital negligent, citing many of the facts of the case as we have previously related them, including the violations of law, and applies the rule of *res ipsa loquitur* in establishing the hospital's responsibility.

This, in resume, is a summary of the Supreme Court decision in the *Oliveros* case. Why this case came to be the vehicle of the new jurisprudential doctrine one may speculate. The particular set of facts of the case, as the high Court relates them, are sufficiently shocking; and the lower court's application of the community rule in dismissing the claim impresses one as rather cynical. This combination may have been what incited the Supreme Court to decide once for all to rid our jurisprudence of the community rule. But the change was coming about anyway, and the content of the old rule had been changed, as the high Court itself points out, in the direction of the new rule.

Perhaps the *Sáez* case, a few years back -- it was decided in 1962 -- was also troubling. This was the case where mere inquiry over penicillin sensitivity, without testing, was considered sufficient because such was the practice. This case more than many others, perhaps, suggested the danger that inadequate practice, by its repetition, might render itself acceptable. In connection with the *Oliveros* case against the background of *Sáez* the question comes up whether violations of law would have been acceptable practice from the standpoint of an action for damages if such violations were usual practice.

But, in any case, as the Court says, the content of the old rule had been changed and sufficient basis had been laid for demanding professionally acceptable practice already, that is, before *Oliveros*. What then does *Oliveros* bring that is unquestionably a break with the past?

The old rule contained two elements. It had a standard by which to measure the performance of the professional man who was being sued. That standard may have changed or at least have been in the process of change under the old rule.

But the old rule also had its procedural aspect -- the expert witness had to be sought in the community, or, at least, in a similar community. The new rule at one stroke obviates that necessity - the expert witness can be sought anywhere and that probably means for Puerto Rico, anywhere in the United States.

The witness eligibility is the operative aspect of the new rule. In the past even a plaintiff with a good case was unable to obtain expert witnesses that were eligible geographically. As a result, the medical profession came under disapprobation for complicity. But it is not easy to criticize in court a member of one's own professional community, even when one feels that justice requires it. So the medical profession was caught between two fires: either criticize publicly and in an adversarial action the professional actuation of a colleague or stand condemned as a participant in a conspiracy of silence. The *Oliveros* decision releases us from that unpleasant impasse. An outside physician can be brought in as an expert. If we feel that he is unfair, we are at perfect liberty to offer testimony for the defense.

Bitterness has been expressed over *Oliveros*. To my mind, this misses the point. In the decision, the Supreme Court of Puerto Rico recognizes the right of the people of Puerto Rico to the best medical services. This is what the Puerto Rico Medical Association has always maintained that they should have. It is true that in some parts of the island there are substandard conditions and inadequate facilities. If objective conditions exist that make it impossible for a physician or surgeon to render the care that he strives to, this can always be brought forth as a defense; *Oliveros* lays the basis for this in saying: "Of course, upon establishing the standard we must and wish to be just and reasonable. We are not going to demand requirements or conditions that should make the practice of medicine in Puerto Rico impossible or that should make medical services economically prohibitive." But it would be a mistake, in the present writer's opinion, to base jurisprudential doctrine primarily on local deficiencies. We should rather accept *Oliveros* as supporting our own demands on behalf of the people, and, arming ourselves with that decision, hold the authorities to account to see that adequate conditions be provided. The people of Puerto Rico are entitled to no less.

PUENTE ATRIOPULMONAR: SEGUIMIENTO A LARGO PLAZO

Jorge O. Just Viera, MD

Pasó ya más de un año desde el informe sobre los resultados experimentales obtenidos al interponer un homoinjerto de arteria pulmonar como puente entre el atrio derecho y la arteria pulmonar, después de cerrarse la válvula tricuspídea (1, 2). Recuperados del acto quirúrgico, los animales fueron investigados por sondeo cardíaco y por angiografía. El informe actual incluye las observaciones a largo plazo de estos animales experimentales.

Métodos y Resultados

Los cuatro animales operados, mantenidos como mascotas durante el período de observación, fueron sometidos a un examen necrológico que confirmó la observación clínica.

Tres semanas después de sondeo cardíaco en el primer animal, y cuatro meses después de cirugía, éste desarrolló síntomas y hallazgos sugestivos de insuficiencia tricuspídea aguda, con ascitis y edema prominente de las extremidades. Sacrificado, la autopsia demostró trombosis aguda del injerto, en la anastomosis atrio-injerto. La sonda causó una perforación en la válvula tricuspídea. Al disminuir el torrente sanguíneo a través del injerto probablemente se formó el trombo.

Ocho meses después de cirugía, el segundo murió repentinamente sin hallazgos previos de insuficiencia tricuspídea. La autopsia reveló oclusión del injerto en su anastomosis atrial por trombo reciente. Lo repentino de la muerte sugiere una posible arritmia.

El tercer animal en sucumbir fue el segundo operado exitosamente. Sobrevivió veinte meses sin novedad, hasta desarrollar semicoma, ictericia, disnea, ascitis y edema periferal. Respondió a diuréticos y digitalis. A los veinte y cuatro meses, se reexploró electivamente con toracotomía derecha. El injerto estaba patente, pero la anastomosis con el atrio se encontró firmemente ocluida por fibrosis. Había comunicación del injerto con la arteria pulmonar y en el acto quirúrgico pudo apreciarse la pulsación del injerto producida por la entrada de sangre desde la arteria pulmonar al injerto. La válvula tricuspídea estaba insuficiente. Las suturas de la válvula, cubiertas de epitelio, habían lacerado a través de la válvula. Aparentemente, el cierre del injerto a los veinte meses causó el cuadro agudo, casi agonizante, el cual se resolvió favorablemente mediante laceración de la válvula y restablecimiento del trayecto normal sanguíneo.

Sometido por la Sección de Cirugía Torácica y Cardiovascular del Hospital Municipal de San Juan. Trabajo llevado a cabo en el Laboratorio de Cirugía Experimental de la Escuela de Medicina de la Universidad de Puerto Rico.

Subvencionado por fondos donados por la Asociación Puertorriqueña del Corazón y por la Asociación Puertorriqueña para Investigaciones Médicas. (APRIM, Inc.)

El último animal, el éxito quirúrgico inicial, nunca tuvo dificultades hemodinámicas. Fue reoperado electivamente 30 meses después con circulación extracorpórea. La disección resultó difícil por las múltiples adherencias encontradas, pero mostró sin lugar a dudas, tejido fibrótico entre el atrio y la arteria pulmonar, donde fue colocado previamente el puente atriopulmonar. No pudo determinarse el momento de oclusión del injerto. El atrio derecho y el ventrículo derecho estaban hipertrofiados.

Discusión

El puente atriopulmonar con homoinjerto de arteria pulmonar o de aorta es factible quirúrgicamente. Durante el transcurso de estos experimentos, en preparaciones agudas, pudo ocluirse la arteria pulmonar con ligaduras después de interponer un homoinjerto entre el atrio y la arteria pulmonar distal a la oclusión. Las fotos 1 y 2 demuestran un ejemplo. Este animal fue sacrificado doce horas después de concluida la cirugía. Estos experimentos a corto plazo se han llevado a cabo exitosamente con y sin circulación extracorpórea.

Hemos comprobado que eventualmente el homoinjerto pulmonar se ocluyó en todos los animales, por razones distintas. En uno, al disminuir la cantidad de sangre que pasaba por el injerto ocurrió trombosis aguda. Dos animales desarrollaron oclusión a nivel de la anastomosis atrial, un hallazgo no necesariamente inesperado. Es bien conocida la tendencia a cerrarse de cualquier anastomosis atrial en el perro. Ambos animales desarrollaron cuadros clínicos agudos y uno murió. El otro sobrevivió al desarrollar insuficiencia tricuspídea aguda. El último animal sobrevivió felizmente por 30 meses, sin embargo, y no aparecieron cuadros dramáticos. Sobrevino fibrosis probablemente producto del rechazo inmunológico.

Los hallazgos deben apreciarse positivamente. Sabemos que la reacción tisular cardíaca humana difiere de la observada en perros. Ya existen puentes ventrículo-pulmonares con homoinjertos con duración de varios años, y con cambios limitados a calcificación de la pared del injerto.

En cambio, tanto en Estados Unidos como en Europa, el puente atriopulmonar ya ha sido aplicado exitosamente para corrección definitiva de atresia tricuspídea. Fontan y Baudet (3) publicaron el informe inicial. Dos de sus tres pacientes estaban vivos 24 meses después. El tercero murió,



Fig. 1: Corazón de un perro sacrificado 12 horas después de sobrevivir cierre de la válvula tricuspídea y de la arteria pulmonar. Sobre la ligadura de la arteria pulmonar, marcada con la flecha grande, puede apreciarse el puente atriopulmonar. La anastomosis atriointerjerto está marcada por la flecha pequeña. Se usó circulación extracorpórea para la operación.

aparentemente debido a una válvula mitral anormal. En la operación de Fontan y Baudet, cerraron el defecto interatrial e insertaron una válvula en la entrada de la vena cava inferior al atrio.

Recientemente, Stanford y sus colegas (4), informaron los resultados de la corrección total de atresia tricuspídea en dos pacientes, con técnica quirúrgica idéntica a la de Fontan y Baudet. Cerrado el defecto interatrial, un homoinjerto valvular pulmonar fue colocado en la unión entre el atrio derecho y la vena cava inferior. Un homoinjerto aórtico, con su válvula, fue cosido al atrio derecho y la arteria pulmonar izquierda. Cerraron la parte proximal de la arteria pulmonar. Uno de dos pacientes murió de hemorragia incontrolable. Seis meses



Fig. 2: Abierto el corazón, puede apreciarse la válvula tricuspídea cerrada por suturas, señaladas por la flecha.

después, la paciente que sobrevivió asistía sin problemas a la escuela y corría bicicleta.

Con estos adelantos hay gran esperanza de que sea factible la corrección definitiva de anomalías congénitas manifestadas por hipoplasia del ventrículo derecho con deformidad asociada de sus válvulas, la tricuspídea y la pulmonar.

Resumen

Se informa el resultado de seguimiento a largo plazo de cuatro animales experimentales después de construido un puente atriopulmonar con homoinjerto de arteria pulmonar, y cierre de la válvula tricuspídea.

Uno murió con trombosis aguda del homoinjerto después de sondeo cardíaco. La sonda perforó la válvula tricuspídea. Dos presentaron cierre de la anastomosis entre el atrio y el homoinjerto. El último presentó un cordón fibrótico entre el atrio y la arteria pulmonar, probablemente producto del rechazo inmunológico.

Summary

Long term follow up is presented of four animals with an atriopulmonary shunt by means of a pulmonary artery allograft after closure of the tricuspid valve. One dog had acute thrombosis of the pulmonary artery caused by perforation of the tricuspid valve during cardiac catheterization. Two had occlusion of the anastomosis between the atrium and the graft. The fourth had a fibrous cord between the atrium and the pulmonary artery probably resulting from rejection.

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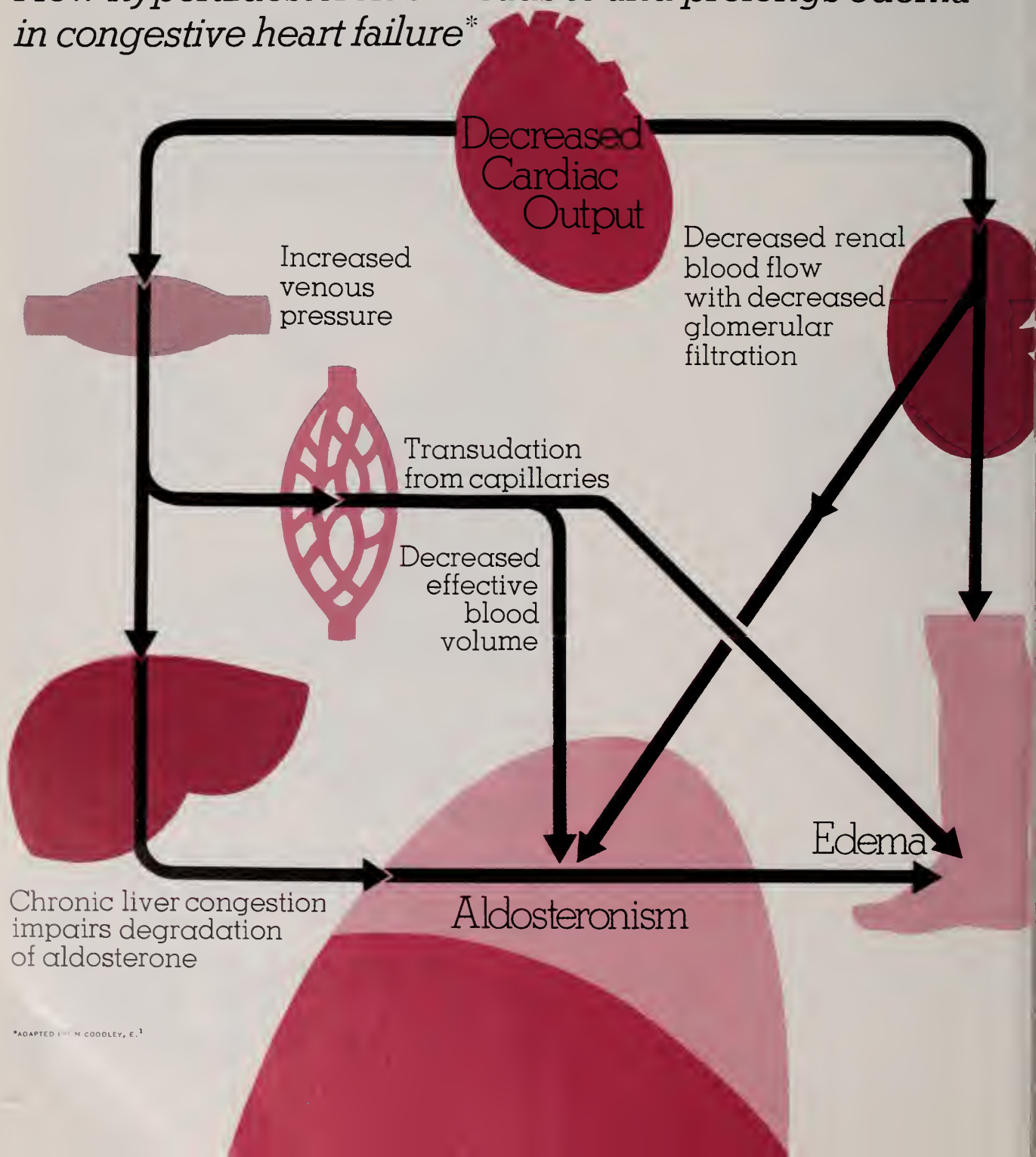
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Contraindications—Acute renal insufficiency, rapidly progressing impairment of renal function, anuria and hyperkalemia.

Warnings—Potassium supplementation may cause hyperkalemia and is not indicated unless a glucocorticoid is also given. Discontinue potassium supplementation if hyperkalemia develops. **Usage of any drug in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the mother and fetus.**

Precautions—Patients should be checked carefully since electrolyte imbalance may occur. Although usually insignificant, hyperkalemia may be serious when renal impairment exists; deaths have occurred. Hyponatremia, manifested by dryness of the mouth, thirst, lethargy and drowsiness, together with a low serum sodium may be caused or aggravated, especially when Aldactone is combined with other diuretics. Elevation of BUN may occur, especially when pretreatment hyperazotemia exists. Mild acidosis may occur. Reduce the dosage of other antihypertensive drugs, particularly the ganglionic blocking agents, by at least 50 percent when adding Aldactone since it may potentiate their action.

Adverse Reactions—Drowsiness, lethargy, headache, diarrhea and other gastrointestinal symptoms, maculopapular or erythematous cutaneous eruptions, urticaria, mental confusion, drug fever, ataxia, gynecomastia, inability to achieve or maintain erection, mild androgenic effects, including hirsutism, irregular menses and deepening voice. Adverse reactions are infrequent and usually reversible.

Dosage and Administration—For essential hypertension in adults the daily dosage is 50 to 100 mg. in divided doses. Aldactone may be combined with a thiazide diuretic if necessary. Continue treatment for two weeks or longer since an adequate response may not occur sooner. Adjust subsequent dosage according to response of patient.

For edema, ascites or effusions in adults initial daily dosage is 100 mg. in divided doses. Continue medication for at least five days to determine diuretic response; add a thiazide or organic mercurial if adequate diuretic response has not occurred. Aldactone dosage should not be changed when other therapy is added. A daily dosage of Aldactone considerably greater than 75 mg. may be given if necessary.

A glucocorticoid, such as 15 to 20 mg. of prednisone daily, may be desirable for patients with extremely resistant edema which does not respond adequately to Aldactone and a conventional diuretic. Observe the usual precautions applicable to glucocorticoid therapy; supplemental potassium will usually be necessary. Such patients frequently have an associated hyponatremia—restriction of fluid intake to 1 liter per day or administration of mannitol or urea may be necessary (these measures are contraindicated in patients with uremia or severely impaired renal function). Mannitol is contraindicated in patients with congestive heart failure, and urea is contraindicated with a history or signs of hepatic coma unless the patient is receiving antibiotics orally to "sterilize" the gastrointestinal tract.

Glucocorticoids should probably be given first to patients with nephrosis since Aldactone, although useful for diuresis, will not directly affect the basic pathologic process.

For children the daily dosage should provide 1.5 mg. of Aldactone per pound of body weight.

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CHANGING PATTERNS IN POISONING IN PUERTO RICO

Sidney Kaye, MSc., PhD

Fatal poisoning continue to be a serious problem in Puerto Rico and it appears that within recent years suicide by poisoning is more frequent than death by accidental overdose (1). We can help identify the problem by following the pattern and nature of these poisoning fatalities from time to time to determine which of these poisonings occur most frequently.

Parathion (a very potent organic phosphate ester insecticide) has been the number one killer in Puerto Rico, (at least for the last eight years) in all categories, (ie), suicide and accidental (1,2); but the recent ever increasing abuse of heroin (morphine), among our "restless" youths (in Puerto Rico) during the 1960's, seemed destined to overtake this lead and become the new number one killer, see Table I. This however, did not happen. Suddenly in 1972 this upward surge of heroin (morphine) mortalities took a very sharp drop, from 33 in 1970 and 33 in 1971, to 8 cases in 1972; and so far (up to October 1, 1973) there were only 2 such deaths due to heroin overdose. It looks like the worst is over with the awful "heroin epidemic" of the 1960's.

Alcohol has now Become the Number One Drug Problem

While the Parathion mortalities still stay high, and the heroin deaths are at a new low, it now becomes apparent that we have finally come face to face with our real problem, more basic and more difficult to combat, — that is, alcoholism, and death due to acute alcoholism. The number of deaths due to alcohol has always been proportionally very high in the United States (1, 3, 4, 5). This somehow had not been true (in the past) in Puerto Rico. But the number of cases has been steadily increasing during the last nine years (1). See Table I. In 1972 it had become the number one cause of fatal poisoning of all the cases studied at the Institute of Legal Medicine.

Although we do experience some changing patterns in fatal poisoning, there are some patterns that do not change. Thirty years ago in Puerto Rico, strychnine and yellow phosphorous (6) (pasta eléctrica) fatal poisoning were not rare.

This is still true today. Aspirin deaths on the other hand has always been a very rare occurrence in Puerto Rico (7).

Carbon monoxide is a very common product of combustion but many people are still not fully aware of its high toxicity (8). Most deaths are usually due to accidental exposure to faulty gas equipment or combustion engines. There have been cases resulting from an automobile "idling" adjacent to a motel, and even cases have been reported on the open seas (9). An unusually large number of fatal poisoning (10 cases) due to carbon monoxide occurred during 1972. This perhaps could have been minimized if more persons were aware of its insidious dangers due to its high toxicity.

The barbiturates are a remarkable drug when prescribed and used properly. But unfortunately, since they can be found in abundance in so many homes it is then no wonder that it is used for suicide, at that critical moment of despair (10). In 1968 the barbiturate drugs were used for suicides mostly by females with a ratio of 3 to 2 ratio over males. In 1972 this is again true. Out of 9 such deaths, the female to male ratio of suicide with barbiturates had narrowed 5 to 4.

Parathion in 1968 was the most frequent toxic agent used for suicides; males outnumbered females by a 8 to 5 ratio. In 1972 this was reversed. We had the same ratio of 8 to 5, but the females now outnumber the male in using parathion for suicide.

In 1972, there were 104 fatal poisoning cases studied at the Institute of Legal Medicine; 45 suicides (20-M:25-F); 35 accidents (29-M:6-F) and 24 cases that were listed as indeterminate because it could not be determined with certainty to which category they belong. Again in 1972 as in 1968 the suicides outnumbered the accidents but now with a 9 to 7 ratio. The distribution by sex of all fatal poisonings show that the males outnumbered females by an approximate 2 to 1 ratio. But when we separated these poisonings by sex and manner of death we note that in suicides, the females now outnumbered the males on a 5 to 4 ratio.

In 1968 there were no suicides with fatal poisonings under the age of 16 years. In age group 16 to 20 years there were more females than males, but between ages 20 to 50, the males by far outnumbered the females; and over age 71 there were no suicides.

However, in 1972 there were two suicides between the ages of 11 to 15 years (1M:1F), and 4 suicides at age 71 and over. In 1972 the females exceeded the males in suicides in all

From the Institute of Legal Medicine, The School of Medicine, University of Puerto Rico.

TABLE I: FATAL POISONINGS DETERMINED AT THE INSTITUTE
OF LEGAL MEDICINE

Poison	1966	1967	1968	1969	1970	1971	1972
Parathion (deriv)	30	19	28	43	37	33	20
Morphine (deriv)	7	15	18	29	33	33	8
Ethanol (alcohol)	8	7	7	11	23	11	30
Barbiturates (deriv)	3	3	12	12	9	15	10
Phenothiazines	0	1	6	3	7	3	6
Tofranil	0	1	0	0	0	2	0
Carbon monoxide	3	1	2	5	3	1	10
Strychnine	4	3	2	5	2	0	1
Phosphorus (Y)	5	2	1	1	2	0	2
Librium	1	1	1	1	0	7	2
Doriden	0	3	1	4	4	1	1
Arsenic	1	1	0	0	1	1	2
Methanol	1	1	0	10	1	0	0
Salicylates	0	0	0	1	0	0	0
Serax	0	0	0	0	0	0	2
Various	6	2	5	5	5	2	10
Total Poisons	69	60	83	130	127	109	104
Total Deaths P. R.	17,509	16,585	15,721	16,850	18,080	18,050	18,200
Pop. (Mill.)	2.6	2.6	2.6	2.7	2.7	2.8	2.8
Autop. I. L. M.	2,106	1,847	1,932	1,991	2,020	2,759	2,916

TABLE II: AGE GROUPS AND MANNER OF DEATH

Age Groups	MANNER OF DEATH											
	SUICIDE			ACCIDENTAL			INDETERMINATE					
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
0 - 5	2	0	2	0	0	0	1	0	1	1	0	1
6 - 10	0	1	1	0	0	0	0	1	1	0	0	0
11 - 15	2	1	3	1	1	2	0	0	0	1	0	1
16 - 20	3	4	7	0	3	3	2	1	3	1	0	1
21 - 30	8	9	17	1	6	7	3	0	3	4	3	7
31 - 40	15	8	23	5	5	10	7	3	10	3	0	3
41 - 50	13	4	17	3	3	6	8	0	8	2	1	3
51 - 60	13	7	20	5	5	10	3	1	4	5	1	6
61 - 70	5	2	7	1	2	3	3	0	3	1	0	1
71 +	7	0	7	4	0	4	2	0	2	1	0	1
TOTAL	68	36	104	20	25	45	29	6	35	19	5	24

age group; except at age 71 and over did the males exceed the females in suicide by fatal poisoning (4M to 0F).

Comments

Although suicides still exceed accidental fatal poisoning in Puerto Rico and although frequency of death due to parathion, strychnine, phosphorous, barbiturates and carbon monoxide are still with us, it is gratifying to see that the horrible menace of the "heroin overdose" cases have greatly decreased.

But we are now faced with a much more formidable problem.

Alcohol - has now in 1972 emerged as the number one killer in Puerto Rico. This is no surprise. With a population of about 2.8 million people, we have a potential of about 1 million drinkers, of whom about 1 in 10 or about 100,000 are problem (heavy) drinkers. This is in approximate agreement with the United States (11). The acute overdose (about 1 "fifth" of 86 proof alcoholic beverage) which produces death by respiratory depression is only part of the entire picture. Alcohol is also an important contributing factor in our annual traffic fatalities. More than 50 percent of our traffic deaths (during the last 5 years) were positive for alcohol in the blood (11, 12), and of those that were positive, more than 50 percent were markedly positive (more than 0.15 gm percent alcohol in the blood).

Alcoholism is a disease of man, which is only exceeded in number by heart disease, mental disease, and cancer. The problem drinker (alcoholic) is one who drinks to such an extent and in such a manner as to injure his health, his ability to make a living, and thus economically and socially affect his family. In other terms (medically): an alcoholic is also one who has a powerful compulsion, tolerance, and withdrawal symptoms.

It is then no surprise (but sad) to see that we have finally come face to face with our real number one drug problem. Even more sad is that so many of our teenagers are now turning to alcohol as the "new" alternative to the so called "hard drugs".

This is no wonder when one watches the whiskey and rum advertisements during the prime TV shows depicting "machismo, financial success and sex appeal" in relation to

youth and drinking.

Now that we know alcohol is the number one killer as a poison, perhaps a greater effort must be made toward "responsible drinking" and thus minimize its role in tragedy.

Acknowledgment

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CONGENITAL ANEURYSMS OF THE SINUSES OF VALSALVA

Efraín A. Defendini, MD
Enrique Marquez, MD
Rafael Brito, MD

Congenital aneurysms of the sinuses of Valsalva are a form of aortic aneurysm and as all other types of aneurysmal lesions their most formidable complication is rupture. The rupture is usually into a cardiac chamber resulting in hemodynamic changes that may kill the patient if not treated promptly (1). The erroneous diagnosis in one case which resulted in unnecessary surgery and the delay in diagnosis in another case which brought a moribund patient to the operating room stimulated us to report these five cases and review the outstanding features of the lesion.

Case Summaries

Case One - R. G. C.

An 8 year-old boy found to have a heart murmur during an illness which was thought to be measles. On examination a thrill was palpable and a grade IV systolic and diastolic machinery type of murmur was heard best to the left of the sternum at the 2nd and 3rd interpaces. The EKG showed biventricular hypertrophy. Chest films showed moderate cardiomegaly, left atrial, right and left ventricular enlargement. He was explored without further studies on March 7, 1960 for a patent ductus arteriosus but a normal ligamentum arteriosum was found. On October 25, 1960 he underwent exploratory cardiectomy under cardiopulmonary bypass and a fistula of the anterior sinus of Valsalva to the right ventricle was discovered and corrected. The post operative course was uneventful. Post operatively a grade II systolic murmur remained but the patient is asymptomatic and there has been considerable decrease in the size of the cardiac silhouette. He has refused further studies.

Case Two - N. G. P.

A 5 1/2 year-old female found to have a heart murmur during a routine medical examination. A large egg shell calcific density was seen in the right anterolateral aspect of the heart in the region of the right auricular appendage. Fluoroscopy showed synchronous movement of this calcification with the cardiac beat. Right and left heart catheterization and cine angiocardiography showed a sinus of Valsalva aneurysm without evidence of a fistula. On December 6, 1968 the patient underwent repair of the aneurysm. The aneurysm was found to arise from the non coronary sinus. The post operative course was uneventful. Because of the presence of a residual murmur she underwent right and left heart catheterization and angiography on January 24, 1970 but no abnormalities were detected.

Case Three - W. R. V.

A 24 year-old man seen on congestive heart failure at one of our medical dispensaries on February 1968 just two months after discharge from the U. S. Army. While in the army, he had noticed inability to

perform physical exercises without severe shortness of breath and exhaustion.

Since February he has been suffering from chest pain, palpitations and easy fatigability in spite of digitalization and the use of mild diuretics. On May 13, 1968 he was admitted in frank cardiac failure with massive cardiomegaly and a large right sided pleural effusion. There was no history of syphilis, tuberculosis or trauma. On examination the findings were a well developed, well nourished, young male in moderate respiratory distress. The neck showed enlarged blood vessels at a 45° angle. The lungs showed decreased breath sounds at the right base with dullness to percussion.

The heart was grossly enlarged to the left (Fig. 1). The heart rate was 100 beats per min and regular. A grade II systolic thrill and a loud continuous heart murmur were present over the 4th and 5th intercostal spaces at the left sternal border.

Cardiac catheterization and a retrograde thoracic aortogram were performed which showed a sinus of Valsalva aneurysm with rupture into the right atrium (Fig. 2).

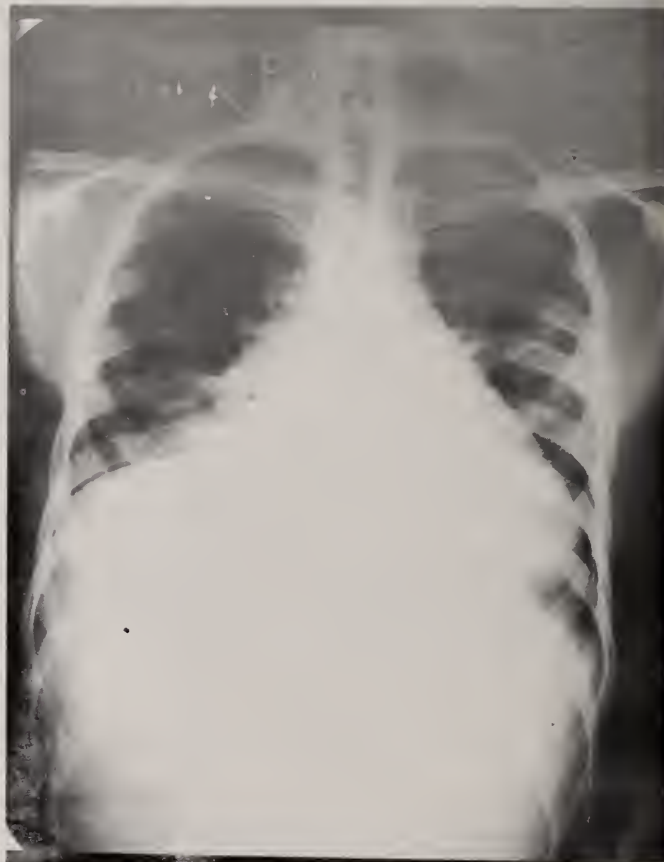


Fig. 1 Case No. 3. Pre-operative chest film. Notice marked cardiomegaly.

From the Department of Surgery, Section of Thoracic and Cardiovascular Surgery, University Hospital and Rafael López Nussa Municipal Hospital, School of Medicine, University of Puerto Rico.



Fig. 2 Case No. 3. Thoracic aortogram performed which showed a sinus of Valsalva aneurysm with rupture into the right atrium.



Fig. 3 Case No. 3. Eight days after surgery. Notice the dramatic reduction in cardiac size.

On July 24, 1968 the patient was placed on cardiopulmonary bypass. The aneurysm was exposed within the right atrium. The redundant saccular lesion was excised and the resulting defect sutured.

Post operatively the patient did well (Fig. 3). There was no further need for digitalis and he was sent home on the 12th post operative day. He has continued to do well and is completely asymptomatic.

Case Four - A. S. L.

A 45 year-old male admitted to the San Juan City Hospital on April 25, 1971 in frank congestive heart failure. He gave a history of a heart murmur and frequent upper respiratory infections as a child. In the 10 months preceding admission he noticed precordial pain, 2 to 3 pillow orthopnea and progressive leg edema. On examination he was found to have a continuous machinery type murmur heard best over the left sternal border. The liver was felt 12 cm. beneath the right costal border. Moderate leg edema was also present.

Cardiac catheterization and aortography demonstrated the presence of a left to right shunt at the ventricular level.

On May 19, 1971 the defect was repaired via a right ventricular incision. The post operative course was uneventful and the patient left the hospital one week later without evidence of cardiac failure.

Case Five - R. A.

A fifth patient was operated upon successfully on January 22, 1974 for a rupture sinus of Valsalva. The 21-year old man was admitted on January 15, 1974 on frank congestive heart failure. On examination he was found to have a grade II systolic murmur heart beat over the left sternal border and a grade IV diastolic murmur at the aortic area.

Studies on January 16, 1974, demonstrated a rupture sinus of Valsalva into the right ventricle.

The patient's condition deteriorated rapidly despite intensive medical treatment. He was operated upon as an emergency. The defect which was located in the inflow portion of the right ventricle, almost in the atrium was repaired through a combined aortic and ventricular approach.

The patient made an uneventful recovery. At present, three months after surgery, he is doing quite well, without a murmur.

Discussion

It has been shown by Edwards and Burchell (2) that congenital aneurysms of the aortic sinuses of Valsalva are most likely the result of an area of weakness due to lack of fusion between the aortic muscular layer and the annulus fibrosus at the base of the heart associated to the constant pounding and lateral pressure effect produced by the ejectile force of the left ventricle. Rupture may occur spontaneously or may be precipitated by bacterial endocarditis and/or trauma.

Congenital aneurysms involve the right coronary sinus in nearly three fourths of the cases and the non coronary sinus in about a fourth. Aneurysms from the right coronary sinus most frequently rupture into the right ventricle and those from the non coronary sinus into the right atrium. Involvement of the

left coronary sinus or more than one sinus is rare (3).

Congenital Sinus of Valsalva aneurysms are usually asymptomatic and for that reason not diagnosed until rupture occurs. On rare occasions a patient with a congenital sinus of Valsalva aneurysm is discovered because the patient becomes aware of a sound in his chest or a systolic ejection murmur is discovered owing to bulging of the aneurysm causing right ventricular obstruction (4, 5) or complete heart block occurs due to compression of the bundle of His and atrioventricular node by the aneurysm (5, 6, 7) or, as occurred in one of our cases, as an incidental finding on an X ray examination.

Rupture of the aneurysm is frequently characterized by the sudden onset of severe precordial, retrosternal or upper abdominal pain which lasts about an hour but occasionally sudden death occurs. Surviving patients may be asymptomatic for days, weeks or months after rupture but usually there is mild chest pain, palpitations and slight dyspnea (8). When progressive heart failure develops (seen in our third case) the condition is usually fatal within a year or less unless the lesion is corrected surgically (9). With rupture, evidence of increased pulmonary circulation and cardiomegaly may be seen in chest films and the electrocardiogram may show right ventricular hypertrophy, right bundle branch block or both; left ventricular hypertrophy or biventricular hypertrophy (10).

The differential diagnosis is essentially that of any lesion with a continuous machinery murmur. A history suggestive of sudden rupture is of great value in its diagnosis and the association of a wide pulse pressure, is helpful. The cardiac catheterization findings are those of a left to right shunt at the atrial or ventricular level. The absence of an oxygen step up at a pulmonary level rules out a patent ductus arteriosus which is one of the most commonly made error in diagnosis as demonstrated with our first case. The final diagnosis and exact preoperative anatomical localization of the aorto cardiac communication depends on retrograde aortography.

Treatment

Surgery, by means of cardiopulmonary bypass is the preferred method of treatment (11). Repair of the lesion from both the aortic side and the involved cardiac chamber have been recommended (12, 13). In most cases the defect can be repaired from below without opening the aorta while it is cross clamped for a brief period to maintain a clear operative field. The aneurysm should be excised and the repair carried out either with suture or patch bringing together the aortic media and the annulus fibrosus of the aortic valve (12).

A frequently associated ventricular septal defect should be sought especially in cases with right coronary sinus aneurysms and if such a defect is found it should be closed at

the same time the sinus aneurysm and fistula are repaired (4, 5, 14).

Our series although small is consistent with the accepted experience that sinus of Valsalva aneurysms can be treated surgically with low mortality and morbidity. With successful surgical repair the results are excellent (15). The continuous murmur and cardiac failure usually disappears. There is a dramatic improvement in the general well being of the patient. Low grade systolic or diastolic murmurs may remain but these are usually of no clinical significance as they represent deformities produced by surgical repair.

A recurrence of the lesion is always a possibility. We do not know the incidence of recurrence as there are no long term follow up statistics available since the first successful repair was done in 1957 (11).

Summary

A ruptured congenital sinus of Valsalva aneurysm can be a fatal disease if not treated promptly. A history of sudden precordial chest pain in the presence of a continuous murmur should suggest its presence. A precise diagnosis is mandatory and this is usually possible through cardiac catheterization and retrograde aortography.

The result obtained in this small series is consistent with the concept that complete surgical repair is possible with a very low morbidity and mortality.

Resumen

La rotura de un aneurisma de un seno de Valsalva puede ser fatal si no se trata con prontitud. Un historial de dolor precordial súbito en la presencia de un soplo continuo hace a uno sospechar su presencia. El diagnóstico preciso es necesario y éste se puede hacer con frecuencia por medio de un cateterismo cardíaco y un aortograma retrogrado.

Los resultados obtenidos en esta pequeña serie es consistente con el concepto que la reparación quirúrgica completa es posible con una morbilidad y mortalidad bien baja.

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NOTICIAS

ANNOUNCEMENT OF HUMANITIES SEMINARS FOR PHYSICIANS AND OTHER MEMBERS OF THE HEALTH PROFESSIONS

Washington, D. C. — Ethical conflicts, the rights of patients and practitioners, and similar questions current in health care will be explored by practicing physicians and other health professionals in a new program of seminars funded by the National Endowment for the Humanities. The program, the first of its kind, will bring together for a month of full-time study and discussion medical practitioners and distinguished humanists whose work has focused on problems related to medicine and health care. A grant of \$105,303, to support three separate seminars during the summer and fall of 1974, was announced by Dr. Ronald Berman, Chairman of the Endowment.

Directing the seminars will be Dr. Charles E. Rosenberg of the University of Pennsylvania, Dr. William F. May and Dr. David H. Smith of Indiana University, and Dr. H. Tristram Engelhardt, Jr. of the University of Texas Medical Branch at Galveston.

Focal points for each seminar will be selected issues based on case studies from medical practice which will be examined in their ethical, philosophical, and/or historical contexts. The new program aims to improve the quality of leadership in medicine by broadening the perspective from which physicians and other health practitioners view their profession and society at large. In launching this project the Endowment's premise is that the knowledge and insights unique to the humanities are needed more urgently than ever in the contemporary world, and that they should be made available to present and future leaders of the nation's professions.

Twelve to fifteen participants, from all branches of the health professions, will be chosen for each seminar by the individual directors in consultation with selection committees. Participants will attend tuition free and will receive a \$1,500 stipend for room, board, and transportation. They may be accompanied by members of their families, but no increase in stipend will be allowed.

One seminar will be taught by Dr. Rosenberg, Professor of the History of Medicine and member of the history and medical school faculties at the University of Pennsylvania. Contemporary problems such as psychiatric legitimacy, hospitals, women and medicine, and medical ethics will be explored in the context of the past century. The seminar will run from July 15 to August 9, 1974, at the University of Pennsylvania in Philadelphia. The deadline for receipt of applications is May 31, 1974; selections will be announced by June 7.

Participants in a second seminar, to be held on the Williams College Campus in Massachusetts, will examine selected ethical issues in medical practice and their consequences for professional conduct. These will include the doctor-patient relationship, the ethos of the hospital and the claims of society at large. Dr. May, Professor and Chairman of the Department of Religion at Indiana University, will direct the seminar. Associate director will be Dr. Smith, Professor of Social Ethics at Indiana. The seminar will run from July 15 to August 9, 1974; deadline for receipt of applications is May 31, 1974, and selections will be made by June 7.

The focus of the third seminar will be ethics and philosophy in the

health-care disciplines. Dr. Engelhardt, a philosopher and physician who is Professor of the Philosophy of Medicine at the University of Texas Medical Branch at Galveston, will direct a case-oriented review of the areas of current ethical controversy in medicine. He will attempt to relate such issues as rights and duties of patients and practitioners and concepts such as the quality of life and human dignity, to decision-making in medical practice. The seminar will be held on the Galveston campus and will run from September 9 through October 4, 1974. Deadline for receipt of applications is June 17, 1974; selections will be announced by July 1.

All requests for information and applications should be addressed to the individual seminar directors as follows:

Professor H. Tristram Engelhardt, Jr.
Institute for the Medical Humanities
University of Texas Medical Branch
Galveston, Texas 77550
(713) 765-2376

Professor William F. May, Chairman
Department of Religious Studies
Sycamore Hall 230
Indiana University
Bloomington, Indiana 47401
(812) 337-3531

Professor Charles E. Rosenberg
Department of History
University of Pennsylvania
Philadelphia, Pennsylvania 19174
(215) 594-8452 or 8453

SEPTEMBER 13-14, 1974. FIBEROPTIC COLONOSCOPY - A MULTIDISCIPLINARY SYMPOSIUM, Philadelphia Marriott Motor Hotel, Philadelphia, Pennsylvania. For further information contact John H. Killough, M. D., Office of Continuing Medical Education, Jefferson Medical College, 1025 Walnut Street, Philadelphia, Pa. 19107 Fee - \$200.

The Department of Medicine, University of Miami School of Medicine, will present a postgraduate education program in November 1974, entitled "Diseases of the Liver." The program director will be Dr. Leon Schiff, Professor of Medicine.

Details of the program are as follows:

DISEASES OF THE LIVER

A postgraduate education course

Presented by: Department of Medicine
University of Miami School of Medicine
Miami, Florida

Director: Leon Schiff, M.D.
Professor of Medicine

Location of Course: Playboy Plaza Hotel
5445 Collins Avenue
Miami Beach, Florida 33140
Tel. 305-865-1500

Dates: November 21-23, 1974

Tuition: \$150; Physicians in Training \$75;
Nurses \$50.

Description of Course: A course on Diseases of the Liver will be given at the Hotel Fontainebleau November 21-23, 1974, under the direction of Leon Schiff, M. D., Department of Medicine, University of Miami. The course will comprise the diagnostic approach to liver disease and jaundice including the clinical examination, laboratory tests, hepatic scintiscan, needle biopsy, laparoscopy, roles of the radiologist and surgeon. A discussion of acute and chronic liver disease will include viral, drug induced and alcoholic hepatitis, Reye's syndrome, chronic

active liver disease, the Budd-Chiari syndrome and primary biliary cirrhosis. Consideration will be given to malignant tumors, amebic abscess of the liver, origin and treatment of ascites, hepato-renal syndrome, surgical approaches to portal hypertension and hepatic coma. Panel discussions will conclude each session.

Address Inquiries to: Leon Schiff, M. D.
Professor of Medicine
Department of Medicine
University of Miami School of Medicine
P. O. Box 520875 Biscayne Annex
Miami, Florida 33152

The American Board of Family Practice announces that it will give its next two-day written certification examination on October 19-20, 1974. It will be held in five centers geographically distributed throughout the United States. Information regarding the examination may be obtained by writing:

Nicholas J. Pisacano, M.D., Secretary
American Board of Family Practice, Inc.
University of Kentucky Medical Center
Annex No. 2, Room 229
Lexington, Kentucky 40506



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and
The Purdue Frederick Scientific Research**

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FIRST PRIZE \$300

SECOND PRIZE \$200

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Each prize will be accompanied by an engraved commemorative certificate.

The Purdue Frederick Company has long had an avid interest in the continuing research efforts of the medical profession, and now, to encourage significant competitive research among students, interns and residents, is pleased to announce an annual program of cash awards for the presentation of their original research at the

**Annual Meeting of the Puerto Rico Medical Association
to be held at San Juan Hotel
on Nov. 6 - 9, 1974.**

**The Scientific Committee of the
Puerto Rico Medical Association will select the winners,
who will be announced at the Annual Meeting.**

For prescribing, see complete prescribing information in SK&F literature or PDR. The following is a brief summary.

Indications: Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. Mild to moderate hypertension.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or cardiac dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without obstruction. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities.

Accordingly, check serum potassium during therapy, particularly in patients with suspected confirmed renal insufficiency (e.g., elderly or debilitated). If hyperkalemia develops, substitute furosemide alone. If spironolactone is used concomitantly with 'Dyazide,' check serum potassium frequently — both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting may indicate electrolyte imbalance, diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

Supplied: Bottles and Single Unit Packages of 100 capsules.

SK&F CO.
Kenilworth, N.J. 07033
A subsidiary of SmithKline Corp.

WHEN YOUR DIGITALIZED PATIENT NEEDS A DIURETIC, SHE NEEDS DYAZIDE®



- relieves edema*
- conserves potassium
- reduces the risk of digitalis intoxication due to potassium depletion. Potassium depletion sensitizes the myocardium to the toxic effects of digitalis, and reduces its inotropic effect.

DYAZIDE®

Each capsule contains 50 mg. of Dyrenium® (brand of triamterene) and 25 mg. of hydrochlorothiazide.

MEETS THE HEARTFELT NEED OF THE DIGITALIZED PATIENT

What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.



Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file,
Hoffmann-La Roche
Inc., Nutley, N.J



The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

This patient's lesions were resolved with

Efudex® fluorouracil/Roche®

5% cream/solution...a Roche exclusive

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| 1. | <i>Baxter Labs.</i> | <i>Triflex</i> |
| 2. | <i>Burroughs Wellcome</i> | <i>Emperin c Codeine</i> |
| 3. | <i>Ciba Pharms.</i> | <i>Vioform-HC</i> |
| 4. | <i>Eaton Labs.</i> | <i>Chloraseptic</i> |
| 5. | <i>Roche Labs.</i> | <i>Bactrim, Efudex, Librium, Valium</i> |
| 6. | <i>Rorer, W. H.</i> | <i>Camalox</i> |
| 7. | <i>Searle, D. G.</i> | <i>Aldactone</i> |
| 8. | <i>Smith, Kline & French</i> | <i>Dyazide</i> |
| 9. | <i>Syntex</i> | <i>Neo-Mull-Soy</i> |

The Bactrim^{T.M.} edge

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of clinical efficacy

- in cystitis, pyelonephritis and pyelitis diagnosed as chronic
- against susceptible strains of the common urinary tract pathogens, usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species.



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

Note: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in chronic and recurrent urinary tract infections.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia in elderly patients on diuretics, primarily thiazides. Sore throat, fever, pallor or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. Data are insufficient to recommend use in infants and children under 12.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, allergy or bronchial asthma; and in those with glucose-6-phosphate dehydrogenase deficiency, where hemolysis may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus,

exfoliative dermatitis, anaphylactoid reactions, peri-orbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12.

Usual adult dosage: Two tablets b.i.d. for 10 to 14 days. For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

Supplied: Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Bactrim^{T.M.}

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole





Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of antibacterial activity
in cystitis, pyelonephritis and pyelitis diagnosed
as chronic and due to susceptible organisms.

Before prescribing, please consult complete product information,
a summary of which appears on preceding page.

BOLETIN

ASOCIACION MEDICA DE PUERTO RICO

MEDICINE	THE FRANCIS A. COUNTWAY NURSING LIBRARY OF MEDICINE BOSTON	PHARMACY	SURGERY
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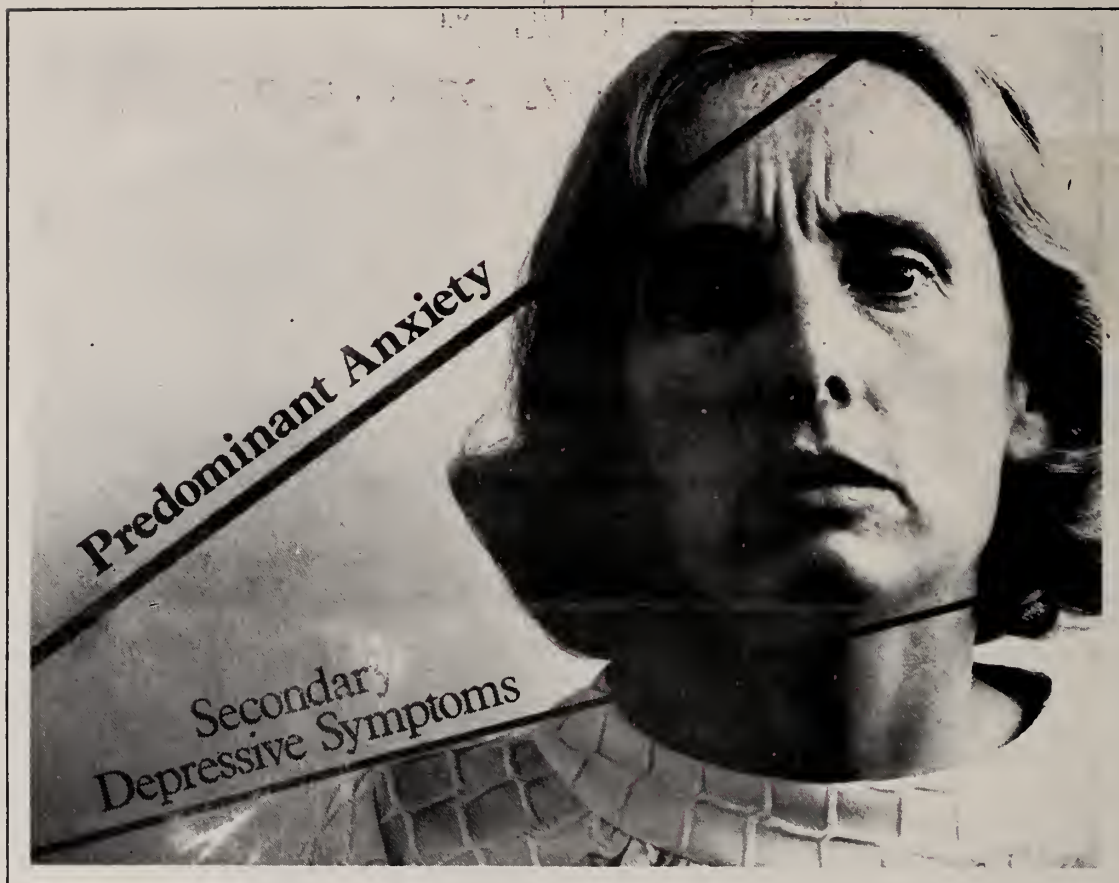
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EDICION DEL HOSPITAL DE VETERANOS, SAN JUAN, PUERTO RICO

Vol. 66

Mayo 1974

No.5



This psychoneurotic often responds

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinations due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive dis-

orders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant

medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

AUG 6 1974

When you determine that the depressive symptoms are associated with or secondary to predominant anxiety in the psychoneurotic patient, consider Valium (diazepam) in addition to reassurance and counseling, for the psychotherapeutic support it provides. As anxiety is relieved, the depressive symptoms referable to it are also often relieved or reduced.

The beneficial effect of Valium is usually pronounced and rapid. Improvement generally becomes evident within a few days, although

some patients may require a longer period. Moreover, Valium (diazepam) is generally well tolerated. Side effects most commonly reported are drowsiness, ataxia and fatigue. Caution your patients against engaging in hazardous occupations or driving.

Frequently, the patient's symptoms are greatly intensified at bedtime. In such situations, Valium offers an additional advantage: adding an *h.s.* dose to the *b.i.d.* or *t.i.d.* schedule can relieve the anxiety and thus may encourage a more restful night's sleep.

symptom complex to Valium[®] (diazepam)

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal

or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred

vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Valium[®] 2-mg, 5-mg, 10-mg tablets
(diazepam)



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

antipruritic

antibacterial

anti-inflammatory

antifungal



the bare facts...

It's plain to see that you need more than an ordinary topical steroid to clear a dermatitis infected with fungi or bacteria.

Vioform-Hydrocortisone, with its four-way action, provides the kind of comprehensive therapy many common dermatoses* require.

*This drug has been evaluated as possibly effective for these indications. See brief prescribing information.

Vioform®-Hydrocortisone (iodochlorhydroxyquin and hydrocortisone)

INDICATIONS

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urticata; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris, corporis, pedis); moniliasis; intertrigo.
Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS

Hypersensitivity to Vioform-Hydrocortisone, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia, and varicella).

WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate systemic antibiotics should be used.

Usage in Pregnancy

Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been established. Therefore, they should not be used extensively on pregnant patients in large amounts or for prolonged periods of time.

PRECAUTIONS

May prove irritating to sensitized skin in rare cases. If this occurs, discontinue therapy. May stain.

If used under occlusive dressings or for a prolonged period, watch for signs of pituitary-adrenal axis suppression.

May interfere with thyroid function tests. Wait at least one month after discontinuance of therapy before performing these tests. The ferric chloride test for phenylketonuria (PKU) can yield a false-positive result if Vioform is present in the diaper or urine.

Prolonged use may result in overgrowth of nonsusceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS

Few reports include: Hypersensitivity, local burning, irritation, pruritus. Discontinue if untoward reaction occurs. Rarely, topical corticosteroids may cause striae at site of application when used for long periods in intertriginous areas.

DOSAGE

Apply a thin layer to affected areas 3 or 4 times daily.

HOW SUPPLIED

Cream, 3% iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of 5 and 20 Gm. **Ointment**, 3% iodochlorhydroxyquin and 1% hydrocortisone in a petrolatum base; tubes of 5 and 20 Gm. **Lotion**, 3% iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearic acid, cetyl alcohol, lanolin, propylene glycol, sorbitan trioleate, polysorbate 60, triethanolamine, methylparaben, propylparaben, and perfume Flora in water; plastic squeeze bottles of 15 ml. **Mild Cream**, 3% iodochlorhydroxyquin and 0.5% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of ½ and 1 ounce. **Mild Ointment**, 3% iodochlorhydroxyquin and 0.5% hydrocortisone in a petrolatum base; tubes of ½ and 1 ounce.

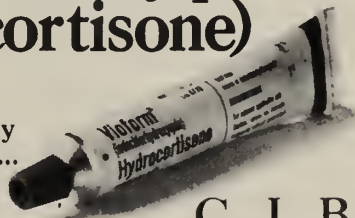
Consult complete product literature before prescribing.

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Vioform®- Hydrocortisone (iodochlorhydroxyquin and hydrocortisone)

Another fact...
the most widely
prescribed form...
20 Gm cream



C I B A

BOLETIN

ASOCIACION MEDICA DE PUERTO RICO



Organo Oficial

Fundado en 1903

Volumen 66

Mayo 1974

Número 5

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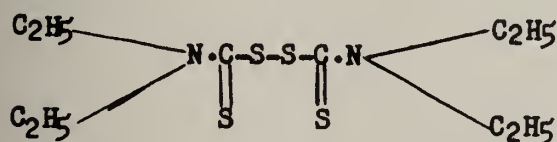
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CONVULSIVE SEIZURES AFTER SURREPTITIOUS ADMINISTRATION OF TETRAETHYLTHIURAM DISULFIDE (ANTABUSE)

Francisco Jaume-Anselmi, MD
Ramón H. Bermúdez, MD

Convulsive seizures resulting from alcoholism are known to occur and they usually precede the onset of frank delirium tremens. Another cause of convulsive seizures in alcoholic patients is the ingestion of alcohol while on tetraethylthiuram disulfide (Antabuse) therapy. Tetraethylthiuram disulfide (Antabuse) is a white or light gray, odorless, almost tasteless, crystalline powder that is almost insoluble in water with the following chemical formula:



Its only clinical use at present is as an adjunct in the treatment of chronic alcoholism. The drug is rapidly absorbed from the gastrointestinal tract. However, a period of twelve hours is required for its full action, perhaps because its high fat solubility allows it to accumulate in the fat depots. Elimination is relatively slow, and about one-fifth still remains in the body at the end of a week. The greatest part of the absorbed drug is oxidized in the liver, and excreted in the urine. When given by itself it is a relatively non-toxic substance. However, it markedly alters the intermediary metabolism of alcohol with the result that, when ethanol is given to an individual previously treated with the drug, the blood acetaldehyde concentration rises five to ten times higher than in an untreated individual. This effect is accompanied by marked signs and symptoms known as the acetaldehyde syndrome characterized by generalized vasodilatation, pulsating headaches, respiratory difficulties, nausea, vomiting, sweating, thirst, chest pain, hypotension, syncope, uneasiness, weakness, vertigo, blurred vision and confusion. The facial flush is then replaced by pallor. Symptoms may

last from thirty minutes to several hours. After they wear off, the patient feels exhausted and may sleep for several hours, after which he is well again. These symptoms have been experimentally produced by the intravenous administration of acetaldehyde to humans. Acetaldehyde is the result of the initial oxidation of ethanol by the alcohol dehydrogenase of the liver. It does not accumulate normally in the tissues since it is rapidly oxidized by aldehyde dehydrogenase, but in the presence of tetraethylthiuram disulfide (Antabuse) this drug competes with the oxidating enzyme giving rise to an accumulation of acetaldehyde in the tissues and thus producing the symptoms described above. Alarming reactions may result from the ingestion of even small amounts of alcohol in patients treated with this drug such as: respiratory depression, cardiovascular collapse, cardiac arrhythmias, myocardial infarction, acute congestive heart failure, unconsciousness, convulsive seizures, and sudden and unexplained death. Obviously the use of this drug is not without danger and should be attempted only under careful medical and nursing supervision. The patient must be told that he is taking the drug and warned that as long as he is taking it, the ingestion of alcohol in any form will make him sick and may even endanger his life. He must learn to avoid disguised forms of alcohol, such as sauces, fermented vinegar, cough syrups and even after shave lotion and back rubs (1).

The object of this report is to bring to the attention of physicians the possibility that alcoholic patients under their care could be victims of the surreptitious administration of this drug, thus presenting bizarre clinical symptoms that would seriously challenge the diagnostic abilities of practicing physicians. The patient to be discussed also presented severe electrolytic imbalance namely, metabolic acidosis and hyponatremia and possible explanations for these disorders will be mentioned.

Case Report

A 37-year old white male was admitted to the hospital on

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September 15, 1965, because of convulsive seizures of twelve hours duration. He was known to be a chronic alcoholic for two years and had been drinking up to the date of admission. At 3:00 a.m. on the day of admission the patient developed a generalized convulsive seizure lasting approximately 35 seconds followed by four other grand mal seizures. There was no previous history of convulsive seizures or recent head trauma.

The patient had been previously admitted to the hospital on April 3, 1964, because of nervousness, anxiety, and headaches with blood pressure levels of 200 systolic, 120 diastolic. Pyuria, cylindruria and irregularities with clubbing of the calyces of both kidneys were found in the intravenous pyelogram suggestive of chronic pyelonephritis. Urine culture was negative. He was given a course of sulfisoxazole (Gantrisin) for one month.

Upon questioning the patient's wife, it was found that hoping to control his alcoholism, she had secretly been giving the patient tetraethylthiuram disulfide (Antabuse), one-half tablet with meals during the week prior to admission, and for the last two days had raised the dosage to one tablet with meals. This medication has been prescribed by a local physician. The patient had continued drinking with no remarkable ill effects until the day of admission.

The physical examination revealed a well nourished, well developed white male in no acute distress, oriented as to time and place and mentally alert. The blood pressure was 170 systolic, 120 diastolic. The pulse was regular at 70 per minute. Temperature was 98.6 degrees Fahrenheit and respirations were sixteen per minute. There was no external evidence of head trauma and the neck was supple. The pupils reacted equally to light bilaterally, the extraocular movements were intact. The fundi revealed no hemorrhages, exudates, micro-aneurysms or pilledema. The tongue was in the midline and gag reflex was present. The lungs were clear to percussion and auscultation. The heart and abdomen were normal. Rectal examination was normal. The cranial nerves were grossly intact bilaterally. There was no sensory deficit or muscular weakness. The deep tendon reflexes were hyperactive bilaterally and the plantar reflexes were extensor. No clonus was elicited. There were no spider nevi, palmar erythema, adenopathy or edema.

On admission the white cell count was 10,200 with 62 per cent neutrophils, 32 per cent lymphocytes, 5 per cent band forms, 1 per cent monocytes; the hemoglobin was 14.0 gm. per 100 ml. and specific gravity of 1.020, ++++albumin, ++sugar and ++acetone. On microscopic examination it had a few fine granular casts, 12-15 red blood cells, a few epithelial cells and 3-5 white blood cells per high power field. The VDRL was non-reactive. The blood sugar was 167 mg. per 100 ml. and a plasma acetone test was negative. The blood urea nitrogen was 8.5 mg. per 100 ml. The serum sodium was 119 milliequiv., the chlorides 100 milliequiv., and potassium 3.6 milliequiv. per liter. A spinal tap performed yielded clear, colorless fluid under an opening pressure of 111 mm. of water. It had one neutrophil, one lymphocyte and twenty seven red blood cells per cubic millimeter. The cerebrospinal fluid sugar was 155 mg. per 100 ml., the chlorides 121 milliequiv. and the proteins 30 mg. per 100 ml. The cerebrospinal fluid VDRL was non-reactive.

Four hours after admission the carbon dioxide combining capacity was 12.8 milliequiv. per liter and the hematocrit 48 per cent. The blood sugar was 146 mg. per 100 ml. with negative plasma acetone, serum sodium 128 milliequiv., the chlorides

95.4 milliequiv., the carbon dioxide combining capacity 22 milliequiv. and the potassium 2.8 milliequiv. per liter. The serum osmolality was 276 milliosmols and the urine osmolality 483 milliosmols. On the second hospital day the hemoglobin was 14.9 gm. per 100 ml. and the hematocrit 49 per cent, the serum sodium was 132 milliequiv., the chlorides 92 milliequiv., the carbon dioxide combining capacity 25.8 milliequiv., and potassium 3.4 milliequiv. per liter, and the creatinine was 1.8 mg. per 100 ml. On the third hospital day a fasting blood sugar was 76 mg. per 100 ml. The bromsulfalein retention was 12 per cent, the SGOT was 100 units, SGPT was 36 units, and the LDH was 560 units. The serum total proteins were 6.75 gm. (the albumin 2.8 gm. and the globulin 3.95 gm.). The thymol turbidity was 3.3 units. The alkaline phosphatase was 3.35 S. J. units and the total bilirubin was 0.2 mg. per 100 ml. The serum cholesterol was 212 mg. per 100 ml. The serum ammonia was 108 mc. g. per 100 ml. The cephalin flocculation was negative in 24 hours. The endogenous creatinine clearance was 277 ml. per minute. The circumoval test for *S. mansoni* was +++ and stools were negative for ova and parasites. On the fifth hospital day the serum sodium was 135 milliequiv., the chlorides 93.8 milliequiv., the carbon dioxide combining capacity 26.6 milliequiv., and the potassium 3.5 milliequiv. per liter. A 24-hour urine for sodium and potassium was 72.8 and 12.0 milliequiv. per liter respectively.

The patient was initially treated with an infusion of 1000 c.c. 5 per cent dextrose in water and multivitamins. He was later given an infusion of 500 c.c. of 1/6 Molar sodium lactate in an attempt to correct his electrolyte imbalance with 50 mg. Chlorpheriramine Maleate (Chlortrimeton) intravenously added to the above infusion. This was followed by a 1000 c.c. 10 per cent dextrose in water with 10 units of regular insulin. On the first hospital day he was placed on a liquid diet and given Diphenhydramine Hydrochloride (Benadryl) 50 mg. intramuscularly. No further convulsive seizures occurred. Because of fever the patient was placed on procaine penicillin 800,000 units intramuscularly every eight hours. On the second hospital day he became afebrile. Restlessness and visual hallucinations appeared. On the third hospital day he developed paranoid ideas, becoming aggressive and continued to be restless. He was restrained and given intramuscular Diphenhydramine Hydrochloride (Benadryl) 50 mg. He was later given Chlordiazepoxide (Librium) 25 mg. orally every six hours. On the fourth hospital day he became delirious and confused and was treated with dextrose infusions and parenteral vitamins. On the fifth hospital day he was seen by the psychiatrist who recommended intramuscular Chlorpromazine (Thorazine) 150 mg. every six hours. The recommendation was followed and Chlordiazepoxide (Librium) discontinued. He was later placed on Chlorpromazine (Thorazine) 100 mg. orally every six hours. With this regime his symptoms gradually subsided and he was discharged doing well on October 8, 1965.

Discussion

This is the case of an alcoholic who developed convulsive seizures while drinking and taking tetraethylthiuram disulfide (Antabuse). The patient had not been told that he was receiving this drug and had no knowledge of its adverse effects. He had been the victim

of surreptitious administration of this drug. Laboratory findings revealed hyponatremia, low carbon dioxide combining capacity, hyperglycemia, glycosuria and ketonuria (2). We considered several etiologies for his hyponatremia. He did not have diarrhea, excessive sweating, evidence of adrenal insufficiency, diabetic acidosis nor evidence of a salt-wasting renal lesion. He did not appear dehydrated. His urinary output was satisfactory and his blood urea nitrogen was normal on admission. He had no edema and presented no signs or symptoms of congestive failure.

Patients with hyponatremia due to inappropriate secretion of anti diuretic hormone (ADH) are those with adequate circulation and expanded extracellular volume. These patients have normal or high normal glomerular filtration rate, normal renal and pituitary-adenocortical function and absence of congestive failure or severe liver disease (3). Among the known causes of the syndrome of inappropriate secretion of antidiuretic hormone (ADH) are: (1) meningitis; (2) head trauma; (3) brain tumors; (4) encephalitis; (5) cerebrovascular accidents; (6) pituitary tumors; (7) carcinoma of the lung; (8) pulmonary tuberculosis; (9) acute porphyria; (10) myxedema; and (11) other central nervous system disorders. Laboratory verification of this classification which is generally accepted as the syndrome of inappropriate secretion of antidiuretic hormone (ADH) is based on a high urinary osmolarity and a low serum sodium (4). We believe that our patient presented this syndrome, but we failed to check these parameters on the day of admission. It is possible that a combination of alcohol and tetraethylthiuram disulfide (Antabuse) along with repeated seizures could have brought on this patient a hyponatremia due to transient inappropriate secretion of antidiuretic hormone (ADH).

Another problem that this patient presented was that of a low carbon dioxide combining capacity. Patients with lactic acidosis usually present in an abrupt manner tachypnea and stupor (5). They usually have a wide "anion gap". These features were not present in our patient. A blood pH or blood lactate levels were not performed that would have helped to prove the possibility of lactic acidosis. Although we believe that the patient could possibly have had lactic acidosis due to the interaction of tetraethylthiuram disulfide (Antabuse) and alcohol with recovery, this was not proven. Another possibility, and the most likely one, was the degradation of tetraethylthiuram disulfide (Antabuse) to organic acids as well as the metabolism of unusual amounts of accumulated acetaldehyde by other biochemical pathways besides the usual ones giving rise to the

production of organic acids and in turn metabolic acidosis (6-9).

The features of hyperglycemia, elevated sugar in the cerebrospinal fluid and glycosuria on the day of admission could be explained by the fact that our patient was receiving infusions of glucose at the time of blood drawing. The transient ketonuria and persistent glycosuria could be explained on the basis of the presence of reducing substances in the urine and excretion of acetaldehyde. Ketonuria could also be explained on the basis of poor caloric intake prior to and during his illness.

Summary

The case involves a patient who was indulging in alcohol while being administered tetraethylthiuram disulfide (Antabuse) without his knowledge and who developed seizures, delirium tremens, hyponatremia, and a low carbon dioxide combining capacity. Although seizures normally precede frank delirium tremens, it is postulated that the cause of the seizures was due to the deleterious combination of alcohol and tetraethylthiuram disulfide (Antabuse). Although the patient discussed had some evidence of liver disease it is postulated that his hyponatremia was due to a transient inappropriate secretion of antidiuretic hormone (ADH), this due to repeated seizures or drug therapy while indulging in alcohol. The presence of a low carbon dioxide combining capacity could have been due to an accumulation of lactic acid as a result of repeated seizures and the possible interference of tetraethylthiuram disulfide (Antabuse) with lactic acid metabolism, but the most probable causes of metabolic acidosis we believe were the accumulation of unusual amounts of acetaldehyde in the blood and the degradation of this compound to organic acids. In any alcoholic patient who has seizures the possibility that there are receiving tetraethylthiuram disulfide (Antabuse) without their knowledge must be considered. Physicians must be alerted to the fact that there are patients who are receiving this drug without their knowledge and who are not aware of its possible ill effects when combined with alcohol. As physicians we should be aware of the danger of providing the drug to relatives or friends of alcoholic patients for surreptitious administration. Druggists should also be alerted to this danger. It would be most interesting to try to duplicate the disorders that the patient manifested on an experimental basis.

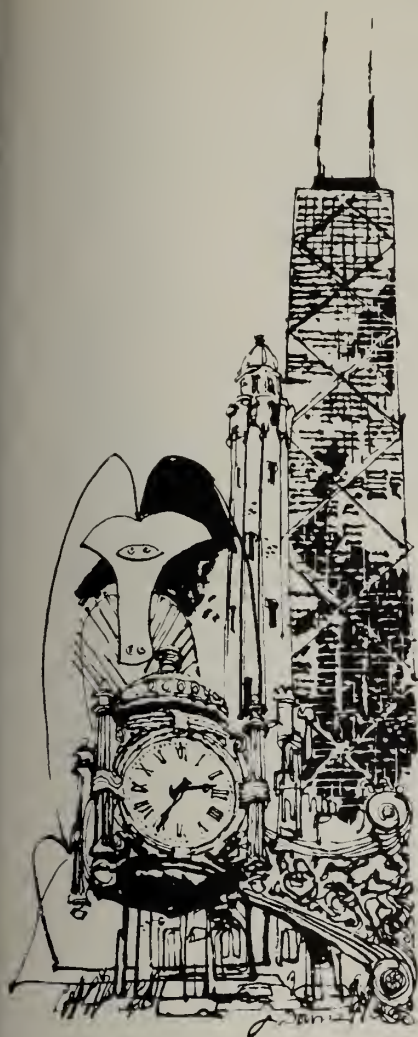
Resumen

Se presenta el caso de un bebedor excesivo al cual se le estaba administrando disulfuro de tetraetiltiurano (Antabuse), sin que él tuviera conocimiento de ello, desarrollando episodios convulsivos, delirium tremens, hiponatremia y disminución de la capacidad de combinar anhídrido carbónico. Aunque generalmente las convulsiones precedieron estados de delirium tremens, se postula que la verdadera causa de los ataques fue una nociva combinación de alcohol con disulfuro de tetraetiltiurano (Antabuse). Además se ha postulado, que aunque el paciente tenía alguna evidencia de enfermedad hepática, la hiponatremia se debería a una alteración transitoria en la secreción de la hormona antidiurética (HAD) relacionada ya sea con los numerosos ataques convulsivos o por un efecto de la droga ingerida conjuntamente con el alcohol. La presencia de una disminución en la capacidad de combinar anhídrido carbónico, podría deberse a la acumulación de ácido láctico resultante de las convulsiones y a una posible interferencia del disulfato de tetraetiltiurano (Antabuse) con el metabolismo del ácido láctico, aunque creemos que el factor fundamental en la acidosis metabólica de este paciente fue una acumulación en la sangre de acetaldehído y de ácidos orgánicos producto de la degradación metabólica de este compuesto químico. Ante un alcohólico con ataques convulsivos debe pensarse en la posibilidad de que esté recibiendo disulfato de tetraetiltiurano (Antabuse) sin su conocimiento. Los médicos deben estar alertas al hecho

de que hay pacientes en tratamiento con esta droga, sin que ellos lo sepan, y lógicamente ignorantes de los posibles efectos perjudiciales de su uso junto con el alcohol. Como médicos debemos instruir a los parientes y amigos del alcohólico en ese tipo de tratamiento. Los farmacéuticos también deben ser prevenidos de este peligro. Sería interesante repetir experimentalmente las alteraciones que el paciente manifestó.

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THE SEGMENTAL EARLY RELAXATION PHENOMENON (SERP): A NORMAL TYPE OF LEFT VENTRICULAR WALL MOTION.

Pablo I. Altieri, Richard F. Leighton, and Shari M. Wilt. Dept. of Medicine, Ohio State University, Columbus, Ohio.

On close inspection of left ventriculograms localized outward left ventricular wall motion (LVWM) during the isovolumic relaxation period (IRP) is an extremely common finding. To investigate this phenomenon further, 100 technically adequate left ventricular cineangiograms from consecutive patients studied for chest pain were inspected for presence of LVWM during the IRP. Obstructive coronary artery disease was found in 59 patients and 41 patients have normal coronary arteries. Systolic contraction abnormalities were present in 52 of the 100 patients. The average duration of the IRP, measured from cineangiographic frames taken at 60/sec., was 100 ± 23 msec., correlating well with values obtained by others using the graphic method. Outward LVWM during the IRP was observed in 83 patients, was localized in 81 and was termed SERP. In 29 patients SERP was accompanied by a simultaneous inward motion in another part of the left ventricle. In ventricles with systolic contraction abnormalities SERP usually occurred in the normally contracting areas (25/39). When the systolic contraction abnormality was extensive, SERP occurred infrequently (4/16). In patients with chest pain, with or without coronary artery disease, outward LVWM occurs commonly during isovolumic relaxation. While others have described SERP as an abnormality, its frequent presence in normal ventricles and its rarity in abnormal areas and in extensively damaged ventricles suggest it is a normal variation of left ventricular relaxation.

INTRAHEPATIC CHOLESTASIS DUE TO ALPHA-METHYLDOPA: A CASE REPORT.

José M. Torres-Gómez, MD, FACP

A case of intrahepatic cholestasis supported by

clinical and laboratory evidence is presented. About 1 1/2 months after taking alpha-methyldopa (only drug ingested), the SGOT became elevated. Itching was the initial symptom. It became intense in the presence of a very modest elevation of the serum bilirubin. The entire clinical picture returned to normal within a week of drug-withdrawal. The case is presented as one of intrahepatic cholestasis secondary to alphas-methyldopa with the purpose to make our physicians aware of this reaction since this drug is being increasingly used for long periods in the treatment of hypertension. Complete recovery following withdrawal of the drug is the rule.

FECAL LEUKOCYTES IN TROPICAL SPRUE

J. Carreras, MS IV, R. Bermúdez, MD and J. Corcino, MD. From the University of Puerto Rico School of Medicine and Veterans Hospital, San Juan, P. R.

It has been shown that the presence of fecal leukocytes suggest a bacterial infection affecting intestinal mucosa or a colitis with disruption of distal intestinal mucosa.

Stools from subjects with tropical sprue are being examined microscopically for leukocytes, using methylene blue stain. Up to the present time, no leukocytes have been found suggesting that if an infectious etiology is implicated it does not invade the intestinal mucosa causing its disruption.

EXPERIENCES WITH THE APPLICATION OF ELECTRON MICROSCOPY AND IMMUNOFLOUORESCENCE TECHNIQUES TO RENAL BIOPSY MATERIAL

Jesús M. Vázquez Urrutia, MD, Gustavo Ramírez de Arellano, MD, Osvaldo Ramírez Muxó, MD, José L. Cangiano, MD, Rafael Ramírez González, MD, and José Campos, MD. Veterans Hospital, San Juan, P. R.

In recent years electron microscopy and immunofluorescence have added a new set of dimensions to the study of various disease states. They are rapidly becoming useful diagnostic tools of the pathologist

involved in the daily examination of tissues. Certainly the most important diagnostic contributions of these techniques have been in the study of kidney diseases.

All the renal biopsies done at the San Juan Veterans Administration Hospital are presently divided in three parts and processed accordingly for electron microscopy, immunofluorescent microscopy and conventional light microscopy. We have processed in our facilities approximately 250 renal biopsies including several interesting cases from the Puerto Rico Medical Center and Ponce District Hospital. Our experience with these biopsies has been quite rewarding from a number of view points.

1. It has stressed the importance of having a single centralized unit for the handling and processing of all the biopsy material so that from a single biopsy, material can be secured for light, electron and immunofluorescent studies.
2. In differentiation the immunologically mediated nephropathies from the non-immunologically mediated ones.
3. Differentiation of disease with similar clinical manifestation such as nephropathies associated with proteinuria or nephrotic syndrome.
4. Providing definite diagnosis in cases that could not otherwise be diagnosed, such as nephropathy associated with Goodpasture's syndrome, hereditary nephritis and IgA nephropathy.
5. As an aid in following patients with immunologically mediated types of glomerulonephritis being treated with drugs directed at the immunological mechanism involved.
6. Following glomerulonephritis with serial biopsies to determine its course so that appropriate therapeutic measures can be taken promptly when needed.
7. Perhaps the most rewarding feature brought about by these new techniques is that by enhancing significantly our diagnostic capabilities in the study of renal diseases, appropriate measures are being taken to prevent progressive irreversible damage to the kidneys, hopefully preventing or at least delaying the appearance of some patients in chronic renal dialysis or kidney transplant programs.

CORRELATION OF CLINICAL AND CORONARY ARTERIOGRAPHIC FINDINGS

José A. Pereyó, M. D., Esteban Linares-Rivera, MD, and Eli A. Ramírez, M. D., M. S., FACP.

Sixty three patients were studied by selective

coronary arteriography in whom coronary artery disease was known or suspected on a clinical basis. The clinical data is analyzed and correlated with the coronary arteriography findings. The history, physical examination, electro and roentgenographic findings, serum lipids, vectocardiogram and exercise stress test, among others, are analyzed. Of these, only the stress test correlated closely with the presence of coronary artery disease demonstrated by arteriography. Serum lipids were more frequently elevated in patients with abnormal arteriograms.

Five patients with positive stress test who had normal arteriograms will be discussed. Three patients with chest pain and abnormal electrocardiograms were found to have incipient idiopathic hyperthrophic subaortic stenosis and normal arteriograms. Five patients with atypical chest pain and negative stress test had normal arteriograms.

CORRELATION OF GRADUATED TREADMILL EXERCISE TESTING WITH CORONARY CINE ARTERIOGRAPHY Experience at the San Juan VAH Preliminary Report.

Esteban Linares Rivera, MD, José A. Pereyó, MD and Eli A. Ramírez, MD

The experience with approximately 40 patients will be reviewed. A correlation between a positive test according to established criteria and cine arteriographic findings will be done. The severity and location of the anatomic lesions will be presented in relation to extent and distribution of the post exercise electrocardiographic change.

CARDIAC HEMODYNAMICS, PLASMA VOLUME (PV) SODIUM SPACE (ExNa) AND PERIPHERAL RENIN (PR) IN UREMIC HYPERTENSION.

José L. Cangiano, MD, O. Ramírez-Muxó, MD, R. Ramírez González, MD, A. Trevino, BS, J. A. Campos, MD, and E. Waddell, BS. Renal Section, Veterans Administration Hospital, San Juan, P. R.

Studies were undertaken in 10 normal subjects, 10 essential hypertensive and 22 uremic patients to assess their cardiac hemodynamic patterns. PV, ExNa and PR

levels. Cardiac output, intraarterial blood pressure and peripheral vascular resistance index (PVRI) were measured. Mean cardiac index in 22 uremic patients (4.43 L/min/M^2) was higher ($p < 0.01$) than that of 10 normal volunteers (3.63 L/min/M^2) and 10 essential hypertensives (3.35 L/min/M^2). Stroke index was not significantly different in normal (48.0 ml/beat/M^2), essential hypertensive (47.3 ml/beat/M^2) and uremics (52.1 ml/beat/M^2). However, the mean PVRI in hypertensive uremics was higher than normotensive uremics (2466 vs $1798 \text{ dynes-sec- m}^2/\text{cm}^5$) with no difference in cardiac index, heart rate or stroke index. PV was significantly elevated in the hypertensive uremics when compared to normotensive uremics (2.44 vs $2.07 \text{ cc} \times 10^3 / \text{M}^2$) for the same level of hematocrit. PR levels

were normal in all uremics (range 0 to $1.48 \text{ Goldblatt units} \times 10^{-4} / \text{ml}$) ExNa was elevated in all uremics but showed no difference between normotensive and hypertensive uremics. After chronic fluid removal with hemodialysis blood pressure of hypertensive uremics was controlled without the need of medication. Repeat studies showed the decrease in blood pressure was due to a decrease in PVRI, accompanied by a decrease in PV and weight. These studies suggest hypertension in uremia is hemodynamically sustained by an increase in PVRI rather than by an increased cardiac output. The renin-angiotensin system does not appear to be related to the increased PVRI in this group of uremic patients in whom dialysis improves hypertension.

DEFICIENCIES OF COAGULATION FACTORS AS A CAUSE OF BLEEDING DEFINITIVE DIAGNOSIS

Walter B. Frommeyer, Jr., MD

The coagulation mechanism may be conveniently divided into 3 stages which involve some 13 separate protein factors, as well as platelet factor.

Stage 1 is concerned with the generation of thromboplastin; Stage 2 is concerned with the conversion of prothrombin to thrombin; and Stage 3 is concerned with the conversion of soluble fibrinogen into insoluble fibrin to form a firm fibrin clot.

The Prothrombin Time Test of Quick measures the reactivity and amounts of factors concerned in Stage 2, as well as the amount and reactivity of fibrinogen (Factor I) in Stage 3 of the clotting system. It by-passes entirely Stage 1 of the clotting mechanism by the addition of a "complete" thromboplastin to the reaction mixture. Therefore, it can only detect deficiencies in Factors II, V, VII, and X in Stage 2, as well as Factor I in Stage 3.

It will not detect deficiencies of Factors VIII, IX, XI, XII, and XIII, or platelet factor 3 deficiency.

The Partial Thromboplastin Time Test measures the integrity of the intrinsic system of thromboplastin generation in Stage 1 through activation of that system

by the addition of "partial" thromboplastin in the form of the lipid, as well as the integrity of Stage 2, and the adequacy and proper amount of Factor I (fibrinogen) in Stage 3. In Stage 1, it will, therefore, detect deficiencies of Factors VIII, IX, X, XI, XII, and V. In Stage 2, it will detect deficiencies of Factors II, V, and X. In Stage 3 it will detect a deficiency or non-reactivity of Factor I. It will not detect deficiencies of Factors VII and XIII, or platelet factor 3.

The Thromboplastin Generation Time Test measures the integrity of the intrinsic system of thromboplastin generation, being based on the fact that potent thromboplastin activity develops during the incubation of $A1(OH)_3$ absorbed normal plasma, normal serum, and normal platelets in the presence of Ca^{++} at 37° C. In this test the actual rate of development of thromboplastin activity is measured by removing samples from the reaction mixture, usually of 1 minute time intervals and measuring the time required for the aliquot of the reaction mixture to clot normal platelet-free citrated plasma when the aliquot is added to the latter.

The thromboplastin generation test is essentially confined to Stage 1 of the clotting system and it will detect deficiencies of Factors V, VIII, IX, X, XI, XII, and, when a proper substitution is made, platelet factor 3. It will not detect deficiencies of Factors I, II, VII, and XIII.

By means of these tests it is possible to clearly identify deficiency of any of these coagulation factors.

From the Department of Medicine, University of Alabama School of Medicine in Birmingham.

Walter B. Frommeyer, MD, FACP

J. Amadeo, MD, FACS

Herbert Maldonado, MD

Problem 1: Splenomegaly

Subjective:

In 1966 this patient was hospitalized at Rodríguez Army Hospital in San Juan. He was found to have splenomegaly, icteric conjunctiva and somewhat altered liver function tests and he was told to have acute hepatitis. In July, 1959 he was hospitalized at Bella Vista Hospital in Mayagüez because of epigastric pain, anorexia, generalized weakness and postprandial discomfort of two weeks duration. On examination slight jaundice and tenderness in the right upper abdominal quadrant were noted. On three occasions during the years 1959 to 1963 he was hospitalized with minimal jaundice, anorexia and dark urine once. Liver function tests showed minimal abnormalities as follows: SGOT, 52U; SGPT, 48U; alkaline phosphatase, 25 U (KA); bilirubin, 1.6 mg%; cephalin flocculation (48 hrs.) 3+. Total protein 8.2 g%; albumin 4.6 g%; globulin 3.6 g%. In 1963 *Schistosoma mansoni* eggs were found on stool examination and treatment with stibophen was started but had to be discontinued because of "allergy".

In January, 1964, he entered the VA hospital for evaluation, complaining only of occasional headache and weight loss.

The only positive finding was a palpable spleen, 3 finger-breadths below the costal margin, of hard consistency and slightly tender. The liver was not palpable and no spider angiomas were found. The laboratory examinations yielded the following data: leukocytes, 4,050/cu. mm., neutrophils, 52%; bands, 3%; lymphocytes, 40%; monocytes, 3%; eosinophils, 2%. Platelets, 108,000/cu. mm. Hematocrit, 42.5%; hemoglobin 13.3 g. Urinalysis was negative. Abnormalities in liver function tests similar to those previously given were found. Bromsulphthalein (BSP) retention, 4% in 45 min. Bleeding and coagulation times were normal. Feces contained *Ascaris* ova. Circumoval test was 4+. Chest films were negative. Barium swallow

suggested the possibility of varices. EKG showed tendency to right axis deviation and counterclockwise rotation. Esophagoscopy revealed varices, gr ii at 34 cm below the upper teeth. Liver biopsy showed portal fibrosis with chronic inflammation and schistosoma granuloma.

The patient was readmitted in October 1964 for adjudication purposes. The examination on admission revealed an enlarged liver and a markedly enlarged spleen. Laboratory findings were similar to those of previous admission except for the report of thrombocytopenia (96,000/cu mm.) and BSP retention of 27%. Splenoportogram revealed intrahepatic portal obstruction with hypertension demonstrated by collateral vessels (coronary veins and esophageal varices) and marked splenomegaly. The splenic pulp pressure was 29 cm of water. The patient was admitted to a VA cooperative study on esophageal varices and was readmitted to the hospital in several occasions during 1965, 1966, 1967 and 1969. During all these hospitalizations repeated esophagoscopy confirmed the presence of varices. Esophagograms, however, did not clearly demonstrate these. Laboratory studies showed leukopenia, thrombocytopenia and slight elevation of total serum bilirubin, alkaline phosphatase and BSP retention.

On June 6, 1973 he was admitted to the Surgical Service with complaints of weight loss of about 10 lbs. in one month, anorexia and continuous left upper quadrant pain. He denied trauma or fever.

Objective:

BP was 130/80 mm Hg; pulse, 78/min; weight, 145 lbs., height, 5'5" and temperature 98.6° F. There was tenderness in the left upper quadrant and a very large spleen. The liver was not palpable and there was no lymphadenopathy. Leukocytes 3,200/cu mm; neutrophils, 53%; bands, 3%; eosinophils, 4%; lymphocytes, 38%. Hemoglobin, 13.5 g; hematocrit, 38.2%; platelets 193,000. SGOT, 86 U; LDH, 430 U; alkaline phosphate 177 U; bilirubin 1.1 mg %. Prothrombine time, 11.1 sec.; control 11.2 sec. Creatinine, 1.4 mg%; uric acid 10.9 mg%; cholesterol 165 mg%; Inorganic phosphorus 4.1 mg%; calcium 9.7

mg%; total protein 7.6 g%; albumin 4.4 g; VDRL non-reactive. Urinalysis, normal. EKG: vertical electrical position.

Chest x-ray, negative. Ba swallow revealed no evidence of varices. Upper GI series showed slight deformity of the duodenal bulb suggesting old duodenal ulcer disease and a large mass overlying the right kidney. Liver-spleen scan (^{99m}Tc sulfur colloid) (Fig. 1) showed an enlarged liver wherein activity was distributed somewhat unevenly. In the right lateral view a rounded region of decreased activity was noted near the lower border. The spleen was markedly enlarged and it presented a very uneven distribution of colloid. Excretory urogram was normal.

While in the hospital the patient remained afebrile but continued to complain of left upper abdominal pain.

On July 2, 1973 an operation was performed.

Dr. Frommeyer:

I will assume that everyone has read the detailed protocol on the patient who is the subject of this CPC. In summary, the patient was noted in 1955 to have splenomegaly, icterus and only mildly altered liver function tests. Then in 1959, four years later, he presented with vague symptoms of 2 weeks duration and was found to have mild icterus and some tenderness in the right upper quadrant of the abdomen.

He remained chronically ill with very mild icterus and anorexia over the next 4 years and was evaluated on several different occasions. These evaluations showed minimal alterations of liver function and in 1963



Schistosoma mansoni eggs were found in the stool and he was appropriately treated with Stibophen to which he was "allergic."

Thus he continued and was found to have esophageal varices while percutaneous liver biopsy showed portal fibrosis with chronic inflammation and schistoma granulomata without mention of eggs being seen.

He maintained anorexia, and now had continuous left upper quadrant pain. By June of 1973 he had lost 10 pounds in weight. He had chronic leukopenia, thrombocytopenia, mild elevation of the serum bilirubin, and alkaline phosphatase and a BSP retention of 27% on one occasion.

It is worthy of note that on his last hospitalization, which was to the Surgical Service of the Veterans Administration Hospital in San Juan, the serum uric acid was 10.9 mg%.

Thus, the patient under discussion, represents the



Fig. 1: Liver-spleen scan. (a) anterior (b) right lateral (c) posterior (d) left lateral views. See text for description.



problem of persistent splenomegaly, of at least 18 years duration, with mild alteration of liver function, esophageal varices, leukopenia, and thrombocytopenia with virtually no anemia.

During the last admission to the hospital he had several studies which are of interest, including x-ray evaluations and a Technetium ^{99m} sulfur colloid scan study of the liver and spleen.

At this time it seems appropriate that we see these scans and that the demonstrator discuss his findings and his conclusions from these scans and the various x-ray studies.

Dr. Julio V. Rivera, F.A.C.P., Chief Nuclear Medicine Service, Veterans Administration Hospital, discussed the liver and spleen scans and pointed out a defect in the left lower segment of the right lobe of the liver and the liver had a salt pepper distribution suggestive of hepatic cirrhosis. In addition he commented on the fact that the liver was slightly enlarged, and the spleen was tremendously enlarged, but that it had a very spotty radio-isotopic uptake and it was not the picture one usually see in so-called chronic congestive splenomegaly.

The x-ray studies did show esophageal varices, without question.

Dr. Frommeyer then continued the discussion and listed several problems which this patient presents. Some of these I will list as follows:

Problem	Duration	Status	Etiology.
1. Splenomegaly	18 years	Active	To be determined
2. Hepatic dysfunction	18 years	Active 1) Esophageal varices (direct vision & x-ray) 2) Portal fibrosis & inflammation (liver biopsy) 3) Hepatic Schistosoma granulomata	Schistosomiasis mansoni
3. Leucopenia & thrombocytopenia without anemia	At least 9 yrs.	Active	Questionably secondary to problem No. 1
4. Pain, LUQ	Probably 14 yrs.	Active	Secondary to problem No. 1
5. Hyperuricemia	3-4 months duration (June-October 1973)	Active	To be determined
6. Positive liver scan	Since June 1973	Active	To be determined

At this point I would like to limit my discussion primarily to the splenomegaly. The causes of splenomegaly are many and varied.

There are 5 main classes of splenomegaly which are as follows:

1. Inflammatory splenomegaly, which may be acute, subacute or chronic, the latter of which this patient is an example.

2. Congestive splenomegaly, such as may be seen in hepatic cirrhosis, among other disorders.

3. Hyperplastic splenomegaly, such as is seen in so many of the hemolytic disorders, hyperthyroidism, and polycythemia rubra vera, but to mention only a few of the causes.

4. Infiltrative splenomegaly, such as is seen in the Thesauroses, or storage diseases, and

5. Splenomegaly due to splenic cysts or neoplasms, such as parasitic cysts and the various leukemias and lymphomas.

Of the chronic inflammatory type of splenomegaly schistosomiasis is a disorder which must be considered. Such splenomegaly is due to infestation of the liver with *Schistosoma mansoni* and is sometimes called Egyptian splenomegaly.

Infestation with this fluke, or flat worm, results in diffuse hyperplastic periportal fibrosis and thrombosis within the splenic vein. Thus progressive splenomegaly is the consequence.

In such a situation the liver is at first enlarged, but later it often shrinks and sometimes ascites develops. Eosinophilia may occur in the earliest stage of the disease, whereas anemia and leukopenia occur later. The symptoms are produced by the deposition of the lateral-spined ova in the proximal and distal peripheral capillaries of the portal system, with resulting fibrosis.

In so-called chronic congestive splenomegaly there is portal hypertension which may be intrahepatic or extrahepatic. In the patient at hand there was demonstrated intrahepatic portal obstruction with portal hypertension. The 2 most common causes of intrahepatic obstruction are cirrhosis of the liver and schistosomiasis. In this situation the liver is usually enlarged, but need not be. In this patient the liver was not enlarged on physical examination, but was clearly enlarged on radio-scan of the liver.

With extrahepatic portal obstruction, which also produces chronic congestive splenomegaly, the liver is often times not enlarged. Such extrahepatic portal obstruction is more often due to thrombosis or cavernous transformation of the portal vein, compression from pancreatic fibrosis or tumor, or

compression from an aneurysm of the splenic artery.

In any event, chronic congestive splenomegaly, sometimes referred to as Banti's syndrome, results in pancytopenia, which this patient really didn't have. He did show and had leukopenia and mild thrombocytopenia.

The leukopenia he had was not selective; i.e., it was not due solely to neutropenia, but rather there was an "across the board," so to speak, reduction in all of the white blood cells with their ratios to each other remaining about the same.

The thrombocytopenia was mild and there was only a slight reduction in the hemoglobin and hematocrit levels.

It should be pointed out that the chronic congestive splenomegaly described by Banti in the last decade of the 19th century was characterized by anemia, of which the patient under discussion had little.

We now know that splenic pancytopenia is, indeed, rare in congestive splenomegaly. However, leukopenia and thrombocytopenia are not uncommon.

I believe that so-called hyperplastic splenomegaly can be ruled out because of the absence of any profound anemia or severe thrombocytopenia and the enormous size of this patient's spleen.

There is little reason to seriously consider infiltrative splenomegaly except for a consideration of amyloidosis. I am hard put to keep this type of splenomegaly alive because of the absence of proteinuria and no real globulinemic abnormalities, either high or low. Such, however, may help explain the hyperuricemia, but it is not likely that with a normal creatinine of 1.4 mg%, at least this is a normal level in my shop, and a normal urinalysis that this explains the hyperuricemia. It is more likely that the hyperuricemia is on the basis of either increased destruction of white blood cells and thrombocytes by the spleen, a decrease in food intake with relative starvation, an unknown history of intake of acetyl salicylic acid or hydrochlorothiazide, as well as possibly Hodgkin's disease, which brings me to the 5th type of splenomegaly.

This 5th type of splenomegaly; i.e., that due to splenic cyst, or neoplasms such as parasitic cysts and the leukemias and lymphomas, I must say that there is little to go on in this regard.

Polycystic disease of the liver is a possibility but one would not anticipate such considerable splenomegaly with relatively minor liver enlargement. Usually the opposite is true; i.e., the liver is greatly enlarged and there is only mild to moderate

splenomegaly.

For Hodgkin's disease I find little in favor of this diagnosis except for the hyperuricemia I mentioned previously.

For the diagnosis of Hodgkin's disease I have little to go on except I have seen a fair number of patients during my 30 years of practice, who have had so-called "abdominal Hodgkin's disease" with only splenomegaly as the manifestation of the disease. However, the vast majority of them had generalized pruritus, as well as episodes of fever.

Also, the longevity of the patient under discussion militates against such a diagnosis. Similarly the absence of anemia speaks against Hodgkin's disease since 1/3 to 1/2 of such patients have anemia as a presenting complaint, which is not the case in the other lymphomas. There are still other factors in this patient denying the diagnosis of Hodgkin's disease which, for want of time, I shall forego discussing.

For primary carcinoma of the liver I would consider this an after thought of the hepatic cirrhosis this patient has. The lack of fever, sudden onset of ascites, unexplained clinical deterioration, right upper quadrant pain and a bruit or even a friction rub led me away from such a diagnosis.

Thus, I am led down the primrose path of a patient with long standing chronic schistosomiasis due to *Schistosoma mansoni*, with subsequent intrahepatic obstruction, eventual hepatic periportal cirrhosis, earlier perisplenic vein fibrosis and thrombosis within the splenic vein with progressive splenomegaly, the latter causing leukopenia and thrombocytopenia on the basis of chronic congestive splenomegaly even though the radio-scan does not have the usual appearance of chronic congestive splenomegaly.

Amyloidosis of the spleen and liver is still a possibility.

Clinical diagnoses by Dr. Frommeyer:

1. Hepatic Schistosomiasis with resulting portal cirrhosis, and
2. Congestive splenomegaly subsequent to No. 1 above with resulting leukopenia and thrombocytopenia.

Dr. José H. Amadeo:

Since the patient had severe constant pain attributed to the large spleen, we decided to perform splenectomy. Because of the evidence of portal

hypertension and the presence of varices, we felt that at the time of splenectomy a splenorenal shunt should be constructed.

The patient was placed in the right lateral recumbent position and a left thoracoabdominal incision was performed entering the left pleural space thru the 8th intercostal space and dividing the diaphragm in line with the incision.

A huge spleen was encountered, firm, rubbery and with numerous varying sized pale gray nodules covering the surface. The spleen was not adherent to adjacent structures as is seen in portal hypertension. In fact there was no evidence of portal hypertension, portal pressure at operation was 18 cm of water. The liver was firm and pale, not contracted, and its surface was finely granular. Because of the absence of evidence of portal hypertension, it was elected to only perform splenectomy and a biopsy of the liver was also obtained.

Pathological Findings - Dr. Herbert Maldonado:

Submitted for pathological studies were two specimens, the spleen and a wedge biopsy of liver.

The spleen (Fig. 2) was markedly enlarged and weighed 1500 grams. The external surface revealed many prominent firm nodules ranging in size from 1 to 3 cm in maximum diameter. The perihilar fat contained also five, pale gray, soft lymph nodes that measured up to 1.5 cm in maximum diameter. The cut surface of the spleen revealed the parenchyma almost completely replaced by pale gray firm nodules, ranging in size from 1 to 3 cm and with larger confluent nodules that measured up to 5 cm in maximum diameter.

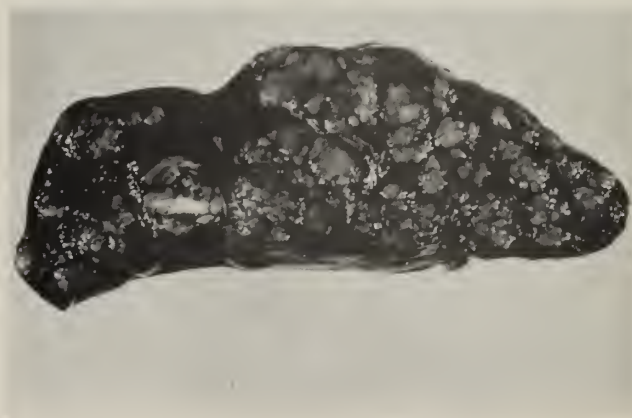


Fig. 2: Cross sections of the spleen revealing the confluent nodules replacing most of the parenchyma.

The microscopic section of one of these nodules (Fig. 3) revealed a monotonous crowding of reticulum cells with a large prominent nucleolus and ill defined cytoplasm with scattered areas of erythro-phagocytosis. These nodules are surrounded by fibrous tissue and remaining areas of spleen parenchyma. Imprint preparations of these nodules revealed reticulum cells with a large nuclei prominent nucleoli and ill-defined cytoplasm. The reticulum stain revealed thin strands of reticulum surrounding the individual cells. The electron microscopy studies of these cells revealed intercellular reticulin and some intracytoplasmic vesicles with a pale black substance suggesting formation of reticulin. The study of the perihilar lymph nodes revealed some of these nodes partially involved by tumor and scattered granulomas, some of them extremely suggestive of sarcoidosis. The special stains for acid fast or fungi were negative. As you know these granulomas have been reported previously in cases of lymphoma and are thought to be related to delay hypersensitively reaction associated with the altered immunity in cases of lymphoma. As in our case some of the granulomas are extremely suggestive of sarcoidosis, but as in other cases there was no evidence of sarcoidosis. The previous liver biopsy in 1964 revealed a fairly well preserved parenchyma with increased portal fibrosis and ill-defined granuloma without schistosoma ova. The present liver biopsy revealed also increased portal fibrosis with few ill-defined granulomas with prominent eosinophiles; one of the granuloma with a central schistosoma ova. So, in

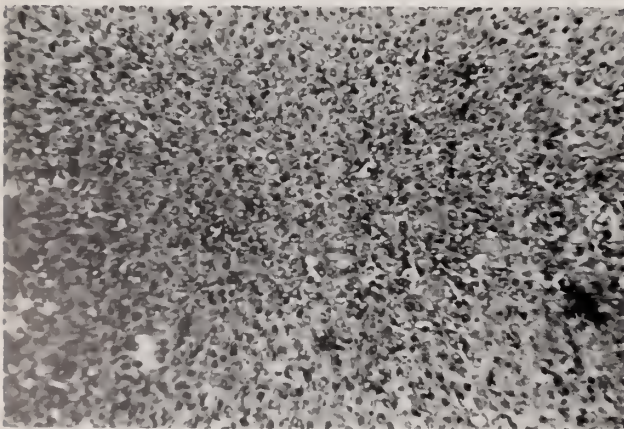


Fig. 3: A microscopic section of splenic nodule revealing the reticulum cells with large nuclei and prominent nucleoli (H&E stain x-400).

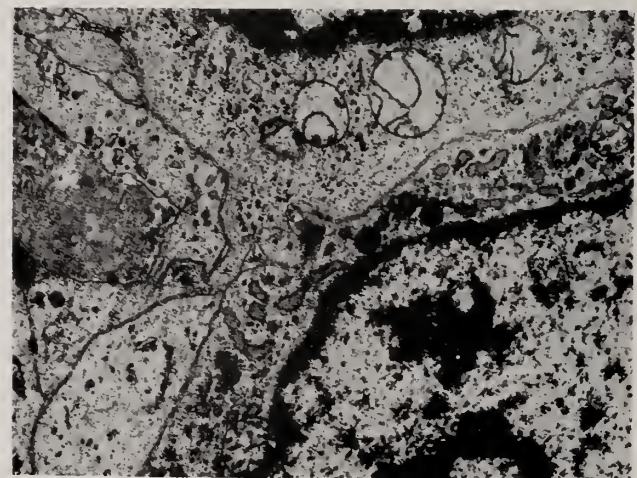
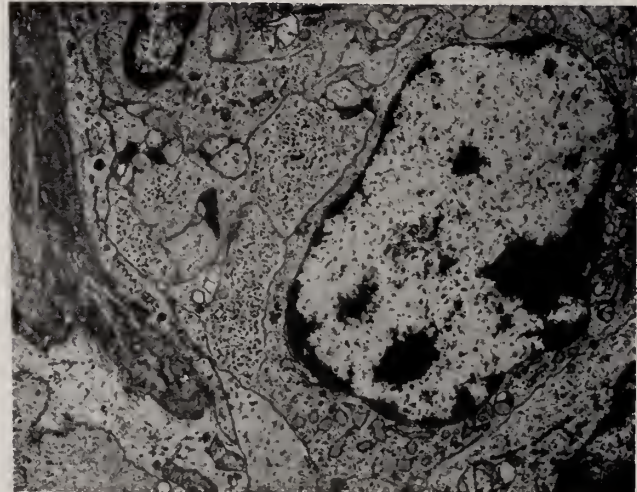


Fig. 4: Electron micrographs of tumor cells containing prominent nucleoli. Note the presence of fibrillar reticulin material on the left hand side of each picture, which identify the tumor as a reticulum cell sarcoma. Mag. 7000x, 13,000x (Courtesy of Dr. Jesús M. Vázquez, Chief Electronic Microscope Section, San Juan, VA Hospital).

this case we have to postulate two different pathologic process, a primary reticulum cell sarcoma of the spleen and schistosomiasis of the liver. As you know, most of these cases of primary reticulum cell sarcoma of the spleen are associated with generalized disease as in our case where the perihilar lymph nodes are already involved by lymphoma.

Pathological Diagnoses:

1. Primary reticulum cell sarcoma of the spleen.
2. Schistosomiasis of the liver with increased portal fibrosis.

Dr. Frommeyer:

Once again I made the mistake of not paying more attention to the serum uric acid of 10.9 mg% upon which I commented. My second error was that I mentioned that in so-called abdominal Hodgkin's disease, which is limited to the spleen only, that the patient usually has anemia, but with the other types of lymphoma which include lymphosarcoma, reticulum cell

sarcoma, and giant follicular lymphoma do not have anemia. This patient did not have anemia. My third error was not giving more attention to the description of the radio-scan of the spleen as given by Dr. Julio V. Rivera wherein he said there was spotty uptake of the radioactive Technetium 99m sulfur colloid and which did not present the picture of congestive splenomegaly but represented some other process.

EL AMERICAN COLLEGE OF PHYSICIANS

El American College of Physicians fue fundado en mayo 11, 1915, como una corporación sin fines pecuniarios, cuyo fin sería establecer una organización de internistas y especialistas reconocidos en campos asociados a la medicina interna, que se reuniesen de tiempo en tiempo para discutir tópicos médicos y científicos, y que a través de esa comunicación trataran de cumplir los propósitos adicionales de:

- a. mantener y avanzar las más rectas normas posibles en educación médica, práctica de la medicina, e investigación,*
- b. preservar la historia y perpetuar las mejores tradiciones de la medicina y de la ética médica y*
- c. mantener, tanto la dignidad de la medicina interna como la eficiencia de su funcionamiento, en relación al bienestar público.*

El Colegio ha tratado de cumplir sus objetivos a través de varias actividades incluyendo la Sesión Científica Anual, la organización de cursos post-graduados, la publicación de los Annals of Internal Medicine y del Boletín del Colegio, y la organización de reuniones científicas regionales, tales como la que se celebró en San Juan en septiembre y cuya contribución científica se presenta en esta edición del Boletín.

Además de estas actividades, el Colegio tiene otras importantes funciones como su participación en la administración de la Junta Americana de la Especialidad de Medicina Interna, en la Comisión Conjunta sobre la acreditación de hospitales, en la Comisión sobre Actividades Profesionales y Hospitalarias y en el Comité de Evaluación de Residencias en Medicina Interna.

El Colegio también se envuelve, de tiempo en tiempo, en actividades encaminadas a la salud pública, el crecimiento de la profesión médica, y otros propósitos que sus cuerpos gobernantes determinen.

Algunas de las actividades en relación con el bienestar público, en las cuales el Colegio ha participado son la estimulación del financiamiento adecuado por parte del gobierno Federal de la educación médica e investigación, el control del alcoholismo, el papel del internista en la comunidad y en el cuidado de emergencia, el involucramiento de internistas en programas de enseñanza sobre resucitación cardio-pulmonar, y el papel de la Medicina Interna en planificación de la comunidad para servicios comprensivos de salud. Todas estas actividades tienen un aspecto nacional importante, pero también necesitan de involucramiento local para su más eficiente desempeño. Por esta razón, el Colegio ha considerado la idea de que se formen capítulos regionales que puedan dedicarse a estas u otras actividades similares, a nivel local.

Agradecemos profundamente la oportunidad que la Asociación Médica de Puerto Rico nos ha brindado para presentar la aportación de nuestra última reunión regional en esta edición del Boletín. Aprovechamos la oportunidad para reconocer que son muchas las veces en el pasado que la Asociación Médica nos ha prestado su más completa cooperación. Esperamos que, de llegarse a la formación de una organización de colegio local, sea aun más estrecha nuestra cooperación para trabajar eficientemente en resolver problemas de mutuo interés en pro del bienestar público.

*Elí A. Ramírez, MD, FACP
Gobernador para Puerto Rico
American College of Physicians*

CHICAGO--Effective June 24, 1974, the American College of Chest Physicians' new office facilities will be located at 911 Busse Highway, Park Ridge, Illinois 60068. The telephone number at the Park Ridge office is (312) 698 - 2200.

The American College of Chest Physicians is an international specialty society affording a multidisciplinary approach to the study of cardiovascular and pulmonary medicine and surgery. Election to membership in the College attests to a physician's recognition as a specialist in his particular field and provides an opportunity for specialists to meet and share medical knowledge and experiences.

College programs include: the publication of CHEST (the journal of circulation, respiration and related systems), postgraduate courses, audiographic and self-teaching materials, the Annual Scientific Assembly and International Congresses held every four years.

The new office facilities were necessitated by the growth of the College's Continuing Education Programs.

For further information, contact: Mary Ellen Zielinski, Press Relations, American College of Chest Physicians, (312) 787 - 4933.

CHICAGO--The Postgraduate Medical Education Committee of the American College of Chest Physicians announces its 1974-1975 Postgraduate Programs.

The ACCP in co-sponsorship with leading medical schools and teaching hospitals offer physicians and surgeons a continuing education program specializing in the diagnosis and treatment of heart and lung diseases. Each program will incorporate a variety of educational methods designed to insure student participation in the learning process.

The continuing education program for physicians sponsored by the American College of Chest Physicians has been accredited by the Council on Medical Education of the American Medical Association and is acceptable for credit toward the AMA Physician's Recognition Award.

For further information contact: Bradford W. Claxton, M.Ed., Director of Continuing Education, American College of Chest Physicians, 911 Busse Highway, Park Ridge, Illinois 60068.

NEW BOOK REVEALS STRIKING ABUSES IN DRUG MANUFACTURE, PROMOTION, PRESCRIPTION, AND USE

In what is probably the most explosive book ever published on the modern "wonder drug" era, two nationally known authorities disclose the way in which drugs are discovered, produced, priced, promoted, and used. The book, PILLS,

PROFITS, AND POLITICS, is being published today by the University of California Press.

When drugs are utilized rationally, the results may be close to miraculous. Infections are cured, pain is controlled, crippling is prevented, mental symptoms are alleviated, and recovery is made quicker and smoother.

But, the authors report, too often these drugs are misrepresented by the drug industry, misprescribed by physicians, and misused by patients. The penalty is not merely needlessly high drug expenditures but needless drug-induced injury, needless hospitalization, and needless death. Adverse drug reactions, they estimate, may be as high as 130,000 a year. The economic cost may be as much as \$4.5 billion a year for hospital costs alone.

The authors are Dr. Milton Silverman, biochemist and pharmacologist, and Dr. Philip R. Lee, family physician, one-time Assistant Secretary for Health, and former Chancellor of the University of California Medical Center in San Francisco. Both are now members of the UCSF faculty.

In a foreword, John W. Gardner, head of Common Cause and former Secretary of Health, Education, and Welfare, says, "In the entire field of medicine, there are few subjects so vital to the health and even the life of the patient. Few so urgently call for action by an informed public. And few authors are so well qualified to shed light on the subject."

In PILLS, PROFITS, AND POLITICS, the authors state, "Much of the blame must be placed on the multibillion-dollar-a-year prescription drug industry and its incredibly effective promotional campaigns. But reprehensible as some of its huckstering has been, the industry cannot be made the only whipping boy. Others--physicians and patients in particular--must share in the responsibility."

Despite drug industry claims that it is a particularly risky business, Drs. Silverman and Lee note that its average profits are nearly double those of all manufacturing industries. Spokesmen for the industry speak frequently of their huge investment in research, now more than \$700 million a year. They speak less of their profits, which are even larger, or the estimated \$1.1 billion a year spent for promotion. This investment in promotion, targeted primarily to the nation's 250,000 prescribing physicians, far surpasses the amount spent by all American medical schools to educate medical students. Some companies have achieved net profits after taxes amounting to 50 or even 55 percent as based on their net worth.

The industry notes that it may take as much as \$7 million to get one new drug on the market, but it places less emphasis on the fact that most companies will recoup that investment in three years.

Far more important than drug company profits, the authors say, are the maneuvers undertaken by some companies to

conceal the hazards of their products, or to claim values for these products which cannot be supported by scientific evidence.

In large part a result of the deluge of drug promotion, physicians have prescribed highly dangerous drugs when equally effective but safer products were available. For example, the way in which physicians continued to prescribe the antibiotic Chloromycetin even after its dangers were widely exposed--and to use it for such diseases as the common cold, influenza, and acne, in which it is ineffective-- is described as an indictment of the medical profession. Costly products have been prescribed when equally safe and effective products were available at lower cost.

The authors document the close ties between the drug industry and organized medicine, especially those medical journals financed in large part by drug advertising. Few physicians, they say, seem aware that among the associate

members of the Pharmaceutical Manufacturers Association--the industry's potent lobbying group--are the American Medical Association, the American Academy of General Practice, and the publishers of widely distributed medical journals which carry large amounts of drug advertising and which have, perhaps coincidentally, given a staunch editorial support to the drug industry.

Many of the abuses disclosed in PILLS, PROFITS, AND POLITICS may be most effectively remedied, the authors suggest, by incorporating rational guidelines for the coverage of prescription drugs under national health insurance. Under such guidelines, any physician could continue to prescribe as he sees fit, but if he prescribes the wrong drug for the wrong patient, in the wrong amounts, and with no consideration of costs, the program would simply not pay for it.

Integument!

Our skin—the human integument—covers us, defines us, protects us. But skin is subject to cuts, burns, abrasions. And infections. Neosporin Ointment fights infection by providing broad antibacterial action against susceptible skin invaders. It contains antibiotics that are rarely used systemically, reducing the risk of sensitization.

INDICATIONS: Therapeutically, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in:

- infected burns, skin grafts, surgical incisions, otitis externa
- primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia)
- secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis)
- traumatic lesions, inflamed or suppurating as a result of bacterial infection.

Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

PRECAUTION: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

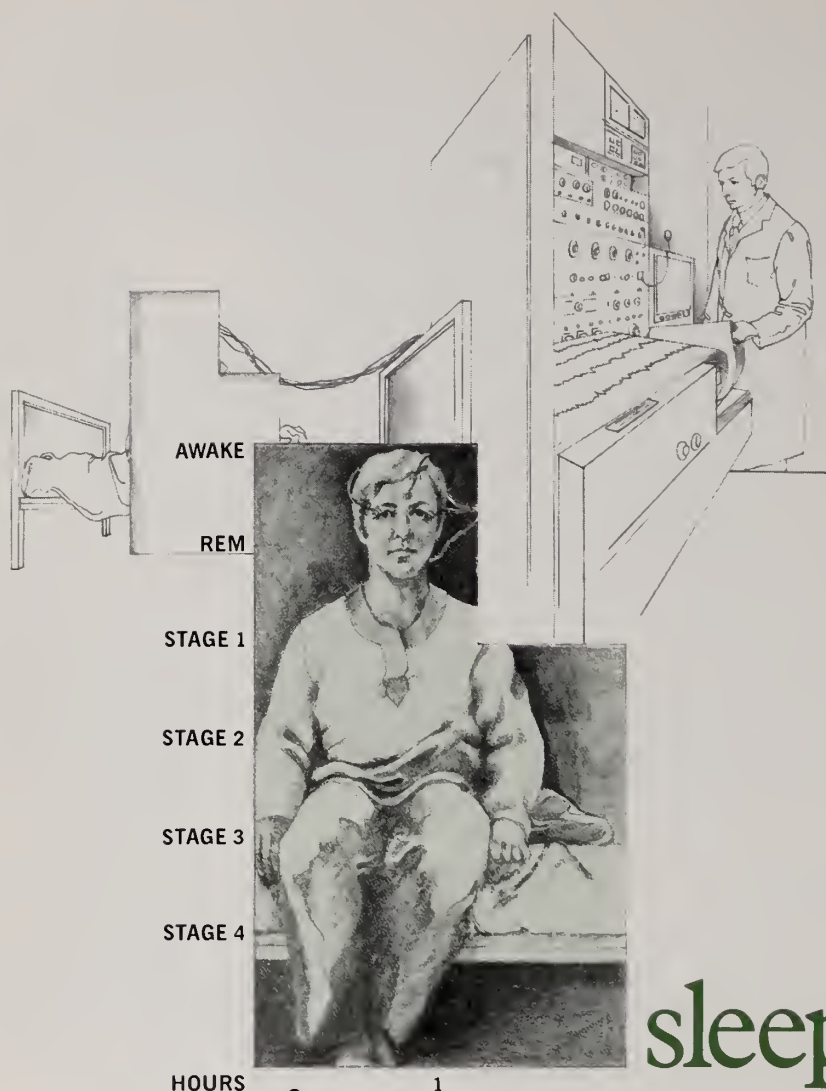
NEOSPORIN[®] Ointment

(POLYMYXIN B-BACITRACIN-NEOMYCIN)

Each gram contains: Aerosporin[®] brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q.s. In tubes of 1 oz. and ½ oz. and ¼ oz. (approx.) foil packets.



Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

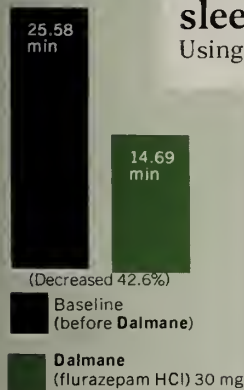


sleep
begins within
17 minutes, on average ...
an initial benefit of

Dalmane[®]
(flurazepam HCl) proved by a
**22-night clinical study of insomnia patients
in the sleep research laboratory and at home¹**

Three insomnia patients selected for difficulty falling asleep were administered Dalmane (flurazepam HCl) 30 mg for 14 consecutive nights. Placebo was given for four nights prior to and four nights after Dalmane. Physiologic tracings on Dalmane nights 1-3 showed sleep induction time averaged 13.90 minutes; on Dalmane nights 12-14, 18.80 minutes. Combined average for the 6 monitored drug nights was 16.35 minutes.¹

Average Time Required
to Fall Asleep (4 Studies,
16 Subjects²⁻⁵)



confirmed by clinical studies in four geographically separated sleep research laboratories²⁻⁵

Using a 14-night protocol involving eight insomniac and eight normal subjects, four studies confirmed the sleep-inducing effectiveness of Dalmane (flurazepam HCl) and the reproducibility of this response. On average, one 30-mg capsule induced sleep within 17 minutes. In all these studies, Dalmane induced sleep rapidly, reduced nighttime awakenings, and provided 7 to 8 hours of sleep without repeating dosage²⁻⁵

Dalmane (flurazepam HCl) induces and maintains sleep, with relative safety

Dalmane is generally well tolerated; morning "hang-over" has been relatively infrequent. While dizziness, drowsiness, lightheadedness and the like have been noted most often, particularly in the elderly and debilitated, physicians should be aware of the possibility of more serious reactions, as noted below.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

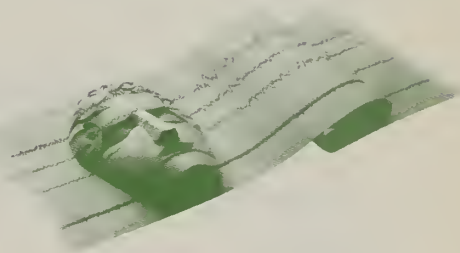
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to

addiction-prone individuals or those who might increase dosage. **Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



when restful sleep
is indicated

Dalmane[®]

(flurazepam HCl)

One 30-mg capsule *h.s.* — usual adult dosage
(15 mg may suffice in some patients).

One 15-mg capsule *h.s.* — initial dosage for
elderly or debilitated patients.

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- sustains sleep 7 to 8 hours, on average, without repeating dosage



ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

REFERENCES: 1. Kales A, et al: *Arch Gen Psychiatry* 23:226-232, Sep 1970

2. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971

3. Frost JD Jr: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

4. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

5. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

Is there a need for a drug compendium?

A drug compendium of the type I envision would fill a definite need for the practicing physician. Such a compendium would give him all the information necessary for using

a drug intelligently, and it would do so in a clear, concise, convenient, objective and balanced fashion.

What a Compendium Should Contain

I believe the compendium should inform the doctor what a drug will do, when he should use it, for what type of patient, for how long, in what dose, what benefits his patient is likely to obtain, the risks involved, and cross-reactions with other drugs.

The information would be based on the package insert and have the same legal status. In fact, a complete compendium with complete and current information might even eliminate the necessity

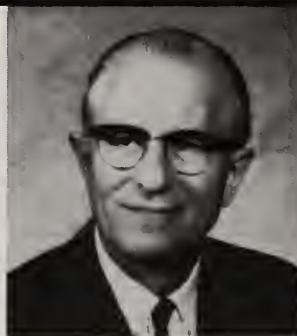
Government Health Official

Henry E. Simmons, M.D.
Deputy Assistant
Secretary for Health
Department of Health,
Education and Welfare



Maker of Medicine

Joseph F. Sadusk, Jr., M.D.
Warner-Lambert Company



A drug compendium, or preferably compendia, should, I believe, be private, not federal, in sponsorship. They should contain comprehensive listings of drugs available for prescribing. They should be single, legibly printed volumes of reasonable size, updated quarterly or semiannually and completely revised every year.

Function of a Compendium

A compendium should furnish the following information on drugs in the following order: indications for use, side effects, adverse drug reactions, contraindications, drug interactions, drug dosage and the dosage forms marketed. Drug prices should not be included because they vary so widely and change rapidly.

No compendium should set forth drugs of choice or discuss relative efficacy. Such questions must be left for the practicing physician to decide, whether on the basis of the medical literature, his own clinical experience, advice of colleagues, information supplied by manufacturers, and so on.

Nor should a compendium undertake to educate the doctor on how to use drugs. Rather, it must be a reference source designed primarily to refresh his memory as to drugs he may not use regularly. It

Opinion & Dialogue

for a package insert in many instances. This would constitute a substantial saving for the manufacturer.

By a complete compendium, I do not mean a volume of prohibitive size. You don't need a book describing 25,000 products with an enormous amount of repetition. Rather, drugs should be arranged by class. Mutually applicable information would be provided, along with brief discussions pinpointing differences in specific drugs of that class. Listings would be cross-indexed in a useful way.

Other Available Documents as Sources of Information

Existing references such as PDR and the AMA Drug Evaluation are obviously useful but they are incomplete. Either they are not cross-referenced by generic name and do not group drugs with similar characteristics, or they do not list all the available and legally marketed drugs. And some of those omitted may be very useful.

On the other hand, drugs made by more than one supplier, tetracycline for example, may be fully described a dozen times in the same book.

While perhaps PDR could be rearranged and cross-indexed with generics included, and while the AMA Drug Evaluation might also be modified and expanded, I am not sure that the end result would have all the attributes required for a useful compendium. At the same time, you would run the risk of amassing a voluminous and unwieldy tome.

Should Editorial Comments Accompany the Listings?

Subjective judgments, in my opinion, have no place in a compendium. However, if there is substantial evidence based on a sound body of science concerning relative efficacy of several drugs, certainly that information should be included. The committee of experts compiling and editing a particular section would also have to assess

and indicate instances where a meaningful difference between drugs is pertinent.

Sponsorship, Compilation and Editing

Producing a book like this would undoubtedly be difficult and demanding. It would obviously take a great deal of talent and expertise, and would require a varied and experienced group, ranging from writers and editors to highly skilled clinicians and pharmacologists. Style, format and clarity of language would play an important part in determining the usefulness of the book. And it should be updated periodically and completely revised annually.

I have no opinion whether the government or the private sector should sponsor and/or finance the compendium. What is most important is that the compendium be an authoritative, objective and useful source of information for the doctor to have at hand as a ready reference.

should in no way imply control over the practitioner's prerogatives.

Why Another Compendium?

A practicable, single-volume compendium cannot, nor is it necessary to, include all drugs on the market today. From my practice of internal medicine for some 15 years, my experience as a consultant, and as a faculty member of four or five medical schools, I would estimate that a doctor uses only 30 to 35 drugs regularly. The 1972 Physicians' Desk Reference, incidentally, contained about 2,500 entries.

As to whether there should be a federal compendium, in my opinion, as stated earlier, the answer is easy—there should *not* be one. The proposal assumes that existing compendia are inadequate. We're not sure of that at all. Whatever its imperfections, the present drug information system in the U.S. is open, multifaceted, pluralistic and extensive. Good compendia exist, as well as other ample sources on drug therapy, ranging from journal literature through AMA Drug Evaluation to company materials. Not all physicians may use such sources as often or as well as they should, but that is the fault of the man, not of the sources.

In any event, rather than pro-

duce another book, it makes much more sense to work on improving existing compendia, and perhaps they could, as knowledge advances, include more accumulated clinical data and experience, and more information on drug interactions and adverse reactions.

Implications of a Federal Compendium

Take a hard look at the implications of a federal compendium. It would have the force of law, virtually dictating what drugs to use and how to use them. In effect, it would be a regulatory document with legal or quasi-legal status, posing medical/legal problems similar to those the doctor may now encounter if and when he departs from the provisions of the package insert. A compendium under federal aegis would tend to restrict decisions on drug therapy to one orthodox level—a most dangerous trend for medicine.

New Compendium—A Medical Option

I detect no ground swell of initiative or support whatsoever for a federal compendium—or, for that matter, for a new compendium of any type. A 1969 PMA survey conducted by Opinion Research Corporation found that only 15 per

cent of those physicians interviewed felt a new compendium was needed. And a large majority did not favor the involvement of the federal government if one were to be created, preferring instead a nongovernmental consortium.

Even if we come to a time when the medical profession itself opts for a new kind of compendium, it should be handled and financed, ideally, outside both government and industry. Final review and editorial authority could be delegated, say, to specialty bodies and medical societies—but above all, *not* the government.

Surely the health care system in the United States has far more vital matters to consider than the extensive cost and effort that would have to go into the preparation and maintenance of a new, monolithic compendium, and especially one bearing the imprimatur of the federal government.

Opinion & Dialogue

What is your opinion, doctor? We would welcome your comments.

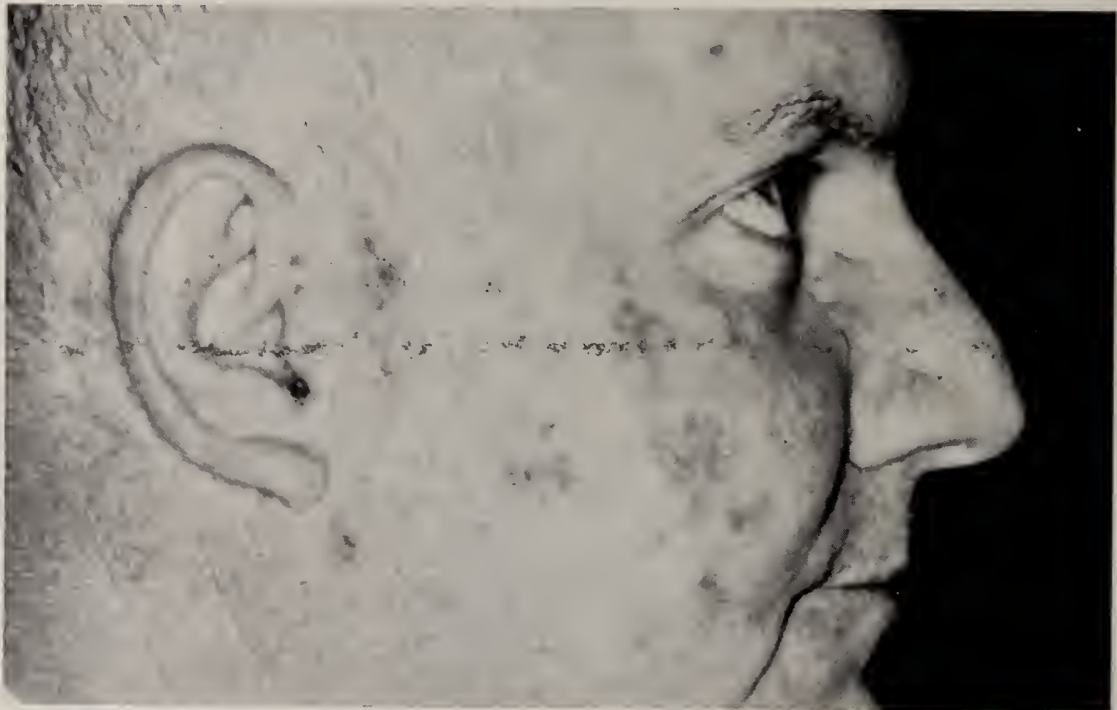
The Pharmaceutical
Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005



What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.



Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.



*Data on file,
Hoffmann-La Roche
Inc., Nutley, N.J

The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

This patient's lesions were resolved with

Efudex® fluorouracil/Roche®

5% cream/solution...a Roche exclusive

Dx: Hiatal Hernia

Rx: Maalox®

Maalox® relieves the symptoms of hiatal hernia by neutralizing gastric hyperacidity. It doesn't constipate. And its taste is pleasant, nonfatiguing—all important considerations in the treatment of a long-term condition like hiatal hernia.

In short, Maalox is the kind of antacid that makes symptomatic relief of hiatal hernia as decisive as its diagnosis.

Maalox® Suspension

(Magnesia and Alumina Oral Suspension, Rorer)
(5 fl. oz. [plastic bottle] and 12 fl. oz.).

Maalox® No. 1 Tablets (0.4 Gm.)

—no sugar and low in sodium.

Maalox® No. 2 Tablets (0.8 Gm.)

—the "chew" tablet with double antacid action.

Maalox®

(Magnesia and Alumina Oral Suspension, Rorer)

the number one antacid



WILLIAM H. RORER, INC.
Fort Washington, Pa. 19034

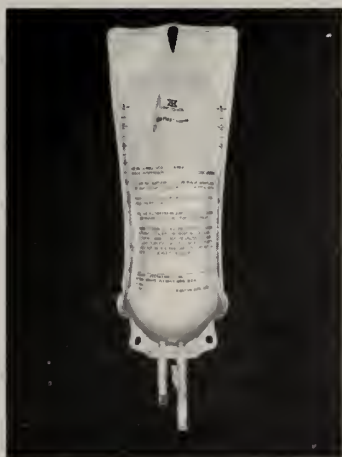
THE CASE OF THE OVER- NIGHT SUCCESS



The spectacular demand for the VIAFLEX™ System of IV solutions has put us on a 24-hour-a-day production schedule.

We think the VIAFLEX System of IV solutions will become the standard system for fluid therapy. It has to . . . it's the first commercial non-air-dependent IV system.

What we didn't know was that the VIAFLEX System would gain acceptance so soon! The overnight success of the Travenol VIAFLEX System simply extended our production facilities beyond our planned capacity and, frankly, we just could not ship in the quantities and specific codes you've been requesting.



We at Travenol have made an all-out corporate commitment to satisfy your demands. Our production capability is being expanded; soon we'll be able to supply as many units of solution in VIAFLEX containers as you need.

We ask you to help, too, by being patient . . . the VIAFLEX System is worth waiting for.

In the meantime, until IV solutions in sufficient quantities are available in VIAFLEX containers, we are able to satisfy your needs with solutions in glass bottles.

TRAVENOL LABORATORIES, INC.
Morton Grove, Illinois 60053

Viaflex™
CONTAINERS

LISTA DE ANUNCIANTES

- | | |
|------------------------------|---|
| 1. <i>Baxter Labs.</i> | <i>Viaflex</i> |
| 2. <i>Burroughs Wellcome</i> | <i>Neosporin</i> |
| 3. <i>Ciba Pharms.</i> | <i>Vioform-HC</i> |
| 4. <i>Flint Labs.</i> | <i>Synthroid</i> |
| 5. <i>Roche Labs.</i> | <i>Dalmane, Efudex, Librium, Valium</i> |
| 6. <i>Rorer, W. H.</i> | <i>Maalox</i> |
| 7. <i>Searle, G. D.</i> | <i>Pro-Banthine</i> |

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, espe-

cially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests

advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100. *Libritabs®* (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

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Symptom of excessive anxiety:

The patient may have difficulty in accepting medical counsel.

Clinical experience has shown that some unduly anxious patients may tend to deny or minimize their illness and therefore resist seeking

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tient, thereby encouraging physician-patient rapport and, on occasion, making it easier for the patient to accept medical counsel.



Please see reverse side
for summary of product information.

for relief of excessive anxiety

Librium[®] 10-mg capsules
(chlordiazepoxide HCl)

DISPLAY
SERIES



**asociación médica
de puerto rico**

Boletín

Vol. 66

Junio 1974

No. 6

Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

SEP 11 1974

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or

two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

1. Henry BW, *et al*: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, *et al*: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Valium[®]
(diazepam)
2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms



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*This drug has been evaluated as possibly effective for these indications. See brief prescribing information.

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INDICATIONS

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urticata; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris, corporis, pedis); moniliasis; intertrigo.
Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS

Hypersensitivity to Vioform-Hydrocortisone, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia, and varicella).

WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate systemic antibiotics should be used.

Usage in Pregnancy

Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been established. Therefore, they should not be used extensively on pregnant patients in large amounts or for prolonged periods of time.

PRECAUTIONS

May prove irritating to sensitized skin in rare cases. If this occurs, discontinue therapy. May stain.
If used under occlusive dressings or for a prolonged period, watch for signs of pituitary-adrenal axis suppression.
May interfere with thyroid function tests. Wait at least one month after discontinuance of therapy before performing these tests. The ferric chloride test for phenylketonuria (PKU) can yield a false-positive result if Vioform is present in the diaper or urine.
Prolonged use may result in overgrowth of nonsusceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS

Few reports include: Hypersensitivity, local burning, irritation, pruritus. Discontinue if untoward reaction occurs. Rarely, topical corticosteroids may cause striae at site of application when used for long periods in intertriginous areas.

DOSAGE

Apply a thin layer to affected areas 3 or 4 times daily.

HOW SUPPLIED

Cream, 3% iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of 5 and 20 Gm. *Ointment*, 3% iodochlorhydroxyquin and 1% hydrocortisone in a petrolatum base; tubes of 5 and 20 Gm. *Lotion*, 3% iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearic acid, cetyl alcohol, lanolin, propylene glycol, sorbitan trioleate, polysorbate 60, triethanolamine, methylparaben, propylparaben, and perfume Flora in water; plastic squeeze bottles of 15 ml. *Mild Cream*, 3% iodochlorhydroxyquin and 0.5% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of ½ and 1 ounce. *Mild Ointment*, 3% iodochlorhydroxyquin and 0.5% hydrocortisone in a petrolatum base; tubes of ½ and 1 ounce.

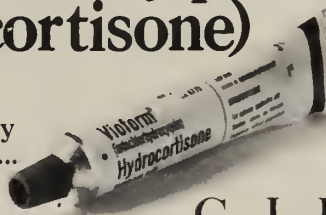
Consult complete product literature before prescribing.

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BOLETIN

ASOCIACION MEDICA DE PUERTO RICO



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Volumen 66

Junio 1974

Número 6

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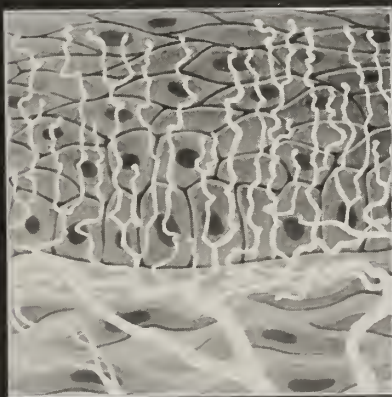
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CONFERENCIA DICTADA POR EL DR.
IVAN ILLICH EN EL SALON DE AUDIENCIAS
DEL COLEGIO DE ABOGADOS EL LUNES,
15 DE ABRIL DE 1974 - "NEMESIS MEDICA"

Ivan Illich, MD

Hace cinco años, en un mensaje de graduación en el Recinto de Río Piedras de la Universidad de Puerto Rico, advertí contra la ilusión de engendrar justicia distributiva por medio de un sistema de escuelas graduadas y obligatorias. Señalé entonces que el sistema escolar, al transformar el saber en un artículo de consumo que solo expertos pueden producir, discrimina contra los autodidactas. Al convertir la educación en un objeto medible, otorga a la mayoría de los puertorriqueños un certificado vitalicio de inferioridad, transforma el crecimiento personal en el resultado de un tratamiento profesional e inculca a todos la ilusión de que la educación es algo que puede producirse en forma industrial, que se puede adquirir en el mercado, acumularse y capitalizarse. Al pronunciar mi mensaje, no fue mi intención, naturalmente, oponerme a la cultura. Quise ridiculizar ese gran engaño que consiste en pretender que la cultura puede ser el producto de un proceso de naturaleza casi industrial.

Durante los últimos tres años, con la colaboración de algunos colegas, iniciamos una discusión internacional contra la ilusión que se esconde tras la supuesta crisis de energía. Esta crisis se considera normalmente como la consecuencia de la creciente escasez de carburantes o como el resultado inexorable del aumento en la contaminación ambiental y del incremento—cada día mayor—de ciudadanos que reclaman el derecho de competir con aquellos ya dedicados a canibalizar y a ensuciar la tierra. Se propone, como panacea, una pequeña dosis de moderación y una fe desmedida en el uso de una nueva tecnología. Contrario a estas soluciones ilusorias y superficiales, nosotros defendemos la tesis de que la crisis energética encarna una contradicción fundamental del sistema industrial. Resulta fácil demostrar que el consumo de energéticos, más allá de algunos caballos de fuerza per cápita, destruye la fibra de la vida social, de la misma manera inexorable que el consumo excesivo de calorías enferma y mata la vida personal.

Nuestra tesis se ilustra si analizamos lo que ocurre en el caso del transporte. El hombre, con sus dos piernas, está bien equipado para moverse. En aquellos

lugares donde no utiliza motores para transportarse, le basta el 5 por ciento de su tiempo vital para ir de su casa al campo, al mercado, a la plaza pública o a visitar su vecino. Con el 5 por ciento de su tiempo social invertido en el tránsito por mar y tierra, no solo los pueblos primitivos sobreviven hoy como lo hicieron siempre. Resulta pertinente recordar que con solo el 6 por ciento de su tiempo social dedicado a la locomoción, los romanos y los españoles crearon sus imperios. El mundo moderno vive hoy bajo la ilusión de que nuestra movilidad ha aumentado porque disponemos de motores que nos impulsan. La realidad es que esto no es así para una gran mayoría de los hombres. El puertorriqueño adulto típico invierte aproximadamente 1,800 horas anuales en su transportación. Esto es así, si consideramos el tiempo que invierte en la construcción, financiamiento y uso de las carreteras, en los estacionamientos, en ganar el dinero para pagar por su coche, por el seguro, por los carburantes y los impuestos, para no hablar siquiera del tiempo que invierte en accidentes, que son la causa principal de muertes de los puertorriqueños en la flor de su vida y que le cuestan a la comunidad más que todo el sistema universitario. El puertorriqueño dedica aproximadamente el 25 por ciento de sus horas despiertas para moverse anualmente sobre una distancia de aproximadamente 11,000 kilómetros. Con la cuarta parte de sus horas despiertas, realiza por hora de vida un desplazamiento de aproximadamente seis kilómetros. En otras palabras, el uso desmedido de fuerza mecánica lo ha convertido en el prisionero de una geografía organizada alrededor de vehículos y no de hombres. Algunos pocos, como yo, viajamos medio millón de kilómetros por año, al costo de un nuevo tipo de esclavitud y parálisis social; al costo de un nuevo tipo de injusticia.

La industrialización de la agricultura está a punto de producir daños aun superiores a aquellos que se derivan de la burocratización del saber y de la motorización de la movilidad. La "revolución verde" se ha revelado como el fracaso más mortífero de todas las empresas de la industrialización. Por haber aumentado los "in-

puts" industriales y disminuído los "in-puts" de brazos humanos en la producción de alimentos, precisamente en las décadas durante las cuales el número de hombres aumentó, nos enfrentamos ahora con el más espantoso método de control de la población, en virtud del aumento inminente del hambre. Al final de esta década, inevitablemente morirán por falta de alimentos, alrededor de 50 millones de seres humanos al año. La cifra se aproximará más a los 100 millones anuales, si es que nuestro mundo llega más allá del año 1980. La conspiración de silencio que existe sobre la "revolución verde", subraya la incapacidad pública para encararse a la realidad. La transformación del saber en un producto de las escuelas, la transformación de la movilidad en un producto de los motores, y la transformación de los alimentos en mercancía, una vez que alcanzan un cierto grado, producen más mal que bien. En estos campos, como en muchos otros, puede verificarse una ley fundamental: cuando la producción industrial de un valor alcanza un nivel en el cual ésta compite con la producción del mismo valor por parte de individuos y comunidades primarias, dicha producción aumenta el desamparo, la injusticia y la ineficiencia total. El hombre moderno encuentra, por el momento, inadmisiblemente e inaceptable esta ley, porque ella es contraria a la hipótesis básica sobre la cual se basa todo el sistema industrial de tipo capitalista o de tipo socialista.

Aquello que se verifica en la industrialización de cualquier valor, es igualmente aplicable al campo de la salud. Estudios realizados durante los últimos cinco años en países ricos y países pobres, ofrecen la misma evidencia y las mismas conclusiones en el sentido de que en cualquier lugar en que los gastos públicos para el tratamiento de algunos pacientes rebasan cierto dintel, el sistema médico comienza a crear daños a la salud. No se trata ya de una reducción de las utilidades marginales decrecientes de las medicinas, sino de unas desutilidades marginalmente crecientes.

Los estudios para implantar en Puerto Rico un sistema de "seguro de salud universal", constituye un buen ejemplo de nociva imitación cultural, en virtud de la cual se trata de importar a esta isla el concepto que tienen los ricos de la salud como mercancía. Esta visión, de tener éxito, convertirá a los puertorriqueños en meros adictos de la salud. Aplastará, a mi juicio, aquella capacidad que cada uno de nosotros lleva dentro de sí para mantenerse en salud. Toda cultura cuenta, entre sus propósitos fundamentales, el mantenerse sana. La idea de la salud como mercancía, entraña una amenaza contra la condición humana misma.

Examinemos algunos datos relevantes sobre la pers-

pectiva que nos acecha. Durante los últimos veinte años los costos de la atención médica en los Estados Unidos han aumentado cinco veces más que el costo de la vida. El desembolso de gastos públicos por concepto de atención médica se multiplicó por diez veces y el privado por tres. El costo de seguro privado aumentó hasta 18 veces, y el 70 por ciento de las primas se contabilizan ahora como gastos administrativos: como ganancias. El aumento en el costo de mantenimiento de hospitales de comunidades (community hospitals), rebasó el 500 por ciento. El costo diario para un paciente en un hospital universitario se triplicó en los últimos ocho años. Hoy día cuesta aproximadamente \$65,000.00 habilitar una cama para un hospital. A pesar de esta inflación sin precedentes por primera vez en la historia de una sociedad industrial, la expectativa de vida de los norteamericanos ha disminuído. Un fenómeno análogo amenaza igualmente al hombre en otros países como Rusia, Inglaterra y Puerto Rico, donde la salud se medicaliza y donde se reduce a una participación igualitaria en el recibo de tratamiento médico.

La medicina no puede curar la vejez, enfermedades cardíacas, la mayoría de los cánceres, la artritis, la múltiple esclerosis, la cirrosis avanzada, ni el catarro común. Estas son, casi siempre, las enfermedades de los viejos. A veces es posible aliviar el dolor de los ancianos, pero en realidad, normalmente, la intervención profesional en estas enfermedades solo aumenta el sufrimiento en los últimos meses de vida; y aun cuando tiene éxito, en la mayoría de los casos lo que hace es prolongar el sufrimiento. A pesar de esto, los norteamericanos invierten hoy el 23 por ciento de su presupuesto de salud en el tratamiento de solo el 10 por ciento de su población, que es la que cuenta con más de 65 años de edad. Con el envejecimiento de la población y el aumento rápido de los gastos médicos en cada uno de ellos al ritmo actual, a mediados de la próxima década la población de más de 65 años de edad, que será entonces aproximadamente el 14 por ciento de la población, consumirá la mitad del presupuesto curativo total.

A medida que aumenta la distribución de atención médica, crece la dependencia en las drogas. Las sustancias que alteran el sistema nervioso, constituyen el sector de crecimiento más rápido de la industria farmacéutica. El consumo de alcohol per cápita aumentó en un 23 por ciento en los últimos 12 años; el de opiados ilegales, en un 50 por ciento; y el uso de calmantes dispensados por receta por los médicos, en un 290 por ciento. Los médicos se encuentran impotentes para contener el abuso de las drogas ilegales, pero son a la vez los más efectivos

promotores de aquellas drogas en cuyo uso ellos mismos estimulan. Hace tres años el Departamento de Estado de los Estados Unidos distribuyó en América Latina un folleto de propaganda, que paradójicamente señala con orgullo que el 17 por ciento de la población de los Estados Unidos disfruta del "privilegio" de poder someterse a un tratamiento para enfermedades mentales o nerviosas.

Pero más grave y más insalubre que la adicción a drogas legalizadas, es el hecho de que con el aumento de los presupuestos médicos crece la dependencia de la población en el doctor. Esta adicción destruye la independencia y la dignidad de la persona con mayor efectividad que la marihuana. Nixon, que tanto luchó contra la adicción a drogas, creó un presupuesto anual de 8 billones de dólares para combatirlas, y en un discurso electoral subrayó el derecho de todo norteamericano de vivir como paciente. En el 1973, el complejo médico-industrial superó a todos los demás sectores pacíficos de la economía y logró un presupuesto de 80 billones de dólares — que es segundo en importancia — solamente al sector militar-bélico. Para realizar el sueño de una mayoría de los ciudadanos transformados en pacientes, los médicos transfirieron de la curación a la prevención el énfasis de sus servicios. Hoy proliferan las consultas prenatales, las clínicas para bebés sanos y los exámenes preventivos periódicos. Para señalar uno de los muchos ejemplos que plantea esta situación absurda, basta recordar que en la reunión nacional de pediatras celebrada hace dos años en Chicago, la presidenta de la organización exhortó a sus colegas a considerar a cada bebé como un paciente, hasta que no se le haya declarado formalmente como sano. Esta nueva moda de la prevención por intervención profesional permite a los médicos someter bajo tratamiento, no solo a quienes recurran a ellos, sino también a aquellos a quienes ellos escogen. En Cuernavaca reunimos tres docenas de estudios que evalúan los grandes programas preventivos que se promovieron recientemente en los Estados Unidos. Todos coinciden en que con esta diagnosis y manutención se aumentan los días de morbilidad, no se altera la mortalidad y se multiplican los riesgos de enfermedades engendradas por el diagnóstico. Las enfermedades asintomáticas que solo exámenes complejos pueden descubrir, son normalmente incurables. Su identificación y tratamiento solo agravan el dolor y la angustia del moribundo.

Pero no solo para el moribundo el veredicto médico es fuente de sufrimientos.

La medicina moderna engendra sus propias enfermedades. Estas se han designado enfermedades iatrogénicas, palabra griega que dice: engendada por el doctor. Los libros de texto sobre la materia las describen como en-

fermedades que ocurren solo en aquellos casos donde se aplica el tratamiento médico profesionalmente recomendado. Estas enfermedades constituyen en su conjunto la epidemia más compleja, en mayor aumento y en más rápido proceso de expansión. En los Estados Unidos, la probabilidad de sufrir un accidente en el hospital es hoy día mayor que la de sufrirlo en la mayor parte de todas las industrias.

La institución médica moderna confronta al hombre con una nueva forma de indefensión colectiva. Si bien es cierto que la ley reconoce una causa de acción en casos de negligencia concreta, la ley no puede reconocer ninguna causa de acción por la mayor parte de los males que resultan de la práctica de la medicina curativa, social, ambiental o industrial, ya que estos daños son resultados de la supererogación de la satisfacción inagotable de las demandas de mayorías. Esta nueva indefensión colectiva es resultado de la determinación social de transferir a los expertos el manejo de la vida del ciudadano.

Mi salud es una propiedad de mi vida. Nadie tiene el derecho de quitármela ni el poder de dármela. Nací hombre, y me hice más hombre al hacerme consciente de mi condición humana, en la cual tendré que sufrir o morir. Forma parte integral de mi salud, mi capacidad para confrontarme con mi dolor, con mi enfermedad y con mi muerte. Todas las culturas no son sino formas distintas de percibir la condición humana, que incluye dolor, angustia y muerte. La medicina ingenieril es un atentado a la función saludable de cualquier cultura, porque transfiere a la institución profesional tareas que solo se pueden resolver en la intimidad personal. Al aceptar la ideología de que otros pueden quitarme el dolor, acabar con toda enfermedad e interponerse entre yo y la muerte, abdicó radicalmente a mi independencia, dignidad y al respeto que otros me deben, por ser todo un hombre.

Permítanme ilustrar lo que quiero decir por "la expropiación profesional de la salud", hablándoles sobre "la expropiación de la muerte". En toda sociedad, la imagen dominante de la muerte determina el concepto prevaleciente sobre lo que constituye la salud. Para el hombre industrializado, la muerte es un mal contra el cual recurre a la protección del médico. Toda su vida se convierte en una lucha para reunir las ofrendas que tendrá que sacrificar cuando llegue su momento final. El seguro médico obligatorio es un método para canalizar sumas crecientes a la profesión médica, en ocasión de aproximarse la muerte de un ciudadano. Este ideal de morir inconsciente y bajo la manipulación intensiva del médico, es de origen bastante reciente. Constituye la última perversión de un nuevo ideal de muerte, que

hizo su aparición en la sociedad occidental en el otoño del medioevo.

En las sociedades primitivas, cuando muere alguna persona, se responsabiliza por ello a alguien: a un brujo, un enemigo, un espíritu, o a un dios. Aun en el ámbito de la cultura del medioevo, no era la muerte misma la que infundía temor. El hombre medieval le tenía miedo a la muerte porque conllevaba una cita con la justicia de Dios. Lo enfrentaba con el cielo o el infierno. La muerte misma no tenía cara. No fue hasta el Siglo 15 que nuevo tipo de muerte hizo su aparición. Su figura novedosa aparece en los antos sacramentales. Se le representa como un esqueleto con una guadaña y un reloj. No se trata ya de uno de los cuatro jinetes apocalípticos familiares en los relieves góticos y románicos. Tampoco es un sencillo mensajero de Dios, un demonio o un ángel que cumple la orden divina de buscar al mortal. Ahora es un personaje dramático, que con derecho propio viene a convidar a cada ser humano a una danza general. La muerte se vuelve macabra; más segura que la inmortalidad, más justa que el rey, papa o dios. Deja de ser meta de la vida y aparece antes de todo como su fin. El hombre moderno e igualitario nace con esta nueva visión de la muerte. A la muerte concebida como fuerza natural se opone el "homo faber". Cada hombre quiere aprender a morir su propia muerte. Durante más de 200 años un librito que enseñaba este arte de morir, superó en venta a todos los otros libros. Prepararse para el acto supremo de la muerte se consideró entonces la tarea más importante de todo mortal. Cada hombre fue juzgado por la manera en que supo morir. Cada hombre sintió la necesidad de tener un amigo de muerte, *amicus mortis*, un amigo en el cual podía confiar y que lo ayudaría a liberarse de las ilusiones cuando se aproximara la muerte. Los tratados sobre medicina están repletos de enseñanza para ayudar al doctor a distinguir al enfermo del moribundo. Presidir sobre este último momento en plena conciencia, era la afirmación de la última e inalienable independencia del hombre. Rico y pobre, cura o prostituta adoptaron las mismas costumbres cuando llegaban al final de su vida.

Más tarde, a mediados del Siglo 18, la burguesía quebró la comunidad social que existía frente a la muerte. Con el desarrollo del capitalismo, se inició la costumbre de emplear profesionales para luchar contra la muerte. Aries describe, de manera brillante, cómo el deseo de gastar dinero para evitar la muerte, transformó al médico en un empleado contra la naturaleza.

Durante las generaciones que precedieron a la revolución francesa, aumentó el trabajo sedentario. Se mul-

tiplicaron los empleos de oficinas, que favorecen al jefe que ha tenido suficiente tiempo disponible para acumular dinero e intereses. Gracias a nuevas estructuras e instrumentos financieros, hace su aparición una clase de viejos poderosos que sobreviven en el poder, por la sencilla razón de que éste ya puede ejercerse desde una silla. Anteriormente, solo los reyes y los papas habían tenido la obligación de permanecer al mando hasta el día de su muerte. Solo ellos empleaban médicos para mantenerlos en salud. El resto de los hombres conocían dos muertes: la social al retirarse y la física, al tomar conscientemente su última copa — frecuentemente de una botella que habían guardado celosamente para la ocasión. Es el nuevo burgués — que se cree agobiado por la obligación de envejecer en la oficina y de quedarse en el trabajo hasta el último día — el que crea un nuevo ideal de salud y de muerte. Antes de la revolución francesa, el "viejo verde" era una figura ridícula. Morir a los 80 años en vigor seductor, se convirtió en un reclamo esencial de los sindicatos. El concepto de la salud que establecieron los viejos burgueses, vino a formar parte de los convenios colectivos. El privilegio de extinguirse en la cama de un hospital, vino a formar parte de una reclamación en masa para un proletariado pensionado. La imagen burguesa del libertino resistente fue sustituida por el norteamericano de vida sexual activa, con el respaldo del seguro social. El ideal burgués de terminar la vida en el trabajo, se convirtió en el derecho a comenzar a gozarla bajo el control médico, después de haberse acogido a la pensión. La muerte con asistencia médica se ha transformado en nuestros días, en una vida dolorosa bajo el control del médico. Así el sueño de la razón engendró su monstruo supremo. El deseo de mejorar la salud generó un mundo higiénico, que solo en palabras es distinguible de un hospital, una cárcel o un inmenso manicomio.

Resulta imposible comprender la organización social contemporánea, si no se le sitúa en la perspectiva de un exorcismo multifacético contra todas las formas de muerte que no tienen la aprobación del médico. Nuestras principales instituciones se han convertido en un gigantesco programa de defensa, lanzado en nombre de la humanidad, contra todas aquellas formas de muerte que no enriquecen a los médicos. Las últimas horas del hombre industrial le permiten un paroxismo de consumo doloroso. Otros hombres lo declaran muerto, cuando su organismo ya resiste toda inyección ulterior. El ideal de la muerte inconsciente, en un ambiente ascético, es la peor peste creada por los médicos. Representa la abdicación total del hombre a su independencia personal.

En América Latina el ideal de la muerte higiénica constituye una droga de carácter imperialista. El pueblo que lo adopte, se compromete a aceptar con él todo el sistema ruso-americano de alta industrialización y progresiva expropiación del poder de la persona. Resulta verdaderamente triste percatarse hasta qué punto esta expropiación ya es final entre los puertorriqueños.

Hace apenas un mes conversé con un grupo de estudiantes puertorriqueños que habían venido desde Nueva York para aprender español en Cuernavaca. A la mayor parte de ellos les resultó chocante el hecho de que tantos mexicanos mueran aún en sus chozas y sean enterrados por sus propios familiares. Me causó profunda pena percatarme del orgullo que sentían estos estudiantes puertorriqueños que viven en Nueva York, porque, según me dijeron, en Puerto Rico ya hasta el pobre tiene el privilegio de entregar su vida y su muerte en las manos de maestros, médicos, agentes fúnebres y otros necrófilos.

La salud humana es algo distinto al bienestar en una granja de pollos. La salud humana es un atributo individual, mediante el cual cada individuo se adapta conscientemente a su ambiente, crece, se nutre, se reproduce, cura sus lesiones, sufre sus penas, espera su muerte y acompaña a otros a través de sus crisis. Cuando un pueblo desaprende cómo morir, entrega su intimidad a la dirección ajena, renuncia a su autonomía e inevitablemente su salud se deteriora. Más allá de un dintel bien bajo, cada aumento del presupuesto de salud disminuye la competencia cultural de consolar al angustiado, de tolerar al loco, de curar al enfermo, de criar al niño, de dar a luz, sufrir y morir en la casa propia. Esta expropiación de la capacidad de adaptación personal y consciente es algo más destructor y espantoso que la suma de extorsiones, malas prácticas, iatrogénesis y negligencias citadas: es una forma de muerte en medio de la vida, que por falta de otro nombre, llamo "némesis médica".

EXERCISE TRAINING AND CORONARY ARTERY DISEASE: A THERAPEUTIC DILEMMA (PART I)

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The hypothesis that increased physical activity may favorably alter the incidence, age of onset, and severity of coronary artery disease has received considerable attention in the past. Several epidemiologic studies have suggested that regular exercise decreases the occurrence of myocardial infarction and its associated mortality (1-4). The mechanisms responsible for the salutatory effects of training are less well elucidated or understood. Controlled studies in man in which exercise can be shown to be significant in the treatment or prevention of coronary heart disease have never been carried out. Investigation is also hampered by the lack of a successful animal model resembling chronic coronary artery disease (5). Further, data obtained after experimental coronary occlusion in dogs is not necessarily relevant to clinical situations (6). The purpose of this report is to review briefly some of the information available after 10 years of research on the effects of physical training on cardiovascular functions in normal subjects and patients with ischemic coronary artery disease.

Effects of Physical Exercise on Cardiovascular Function in Normal Subjects:

Maximal oxygen uptake is the greatest amount of oxygen a person can take in during physical exercise (7). It is an index of maximal cardiovascular function and functional capacity of the circulatory system provided that pulmonary function and ambient oxygen concentration are normal. If a patient is subjected to exercise at progressive increases in work load, there will be a direct relation between the amount of work performed and oxygen consumption until a maximal oxygen uptake is reached. Even if the patient exercises at a higher work load the oxygen uptake is not increased. This value is thus called maximal oxygen consumption (7).

Oxygen uptake is determined by two factors: cardiac output and arterio-venous oxygen difference. The factors that determine cardiac output are the heart rate and stroke volume while the A-V oxygen difference depends on the oxygen content in arterial and venous blood. Physiologic factors such as age, sex, body size, and physical conditioning (7) can be

responsible for variations in maximal oxygen uptake. Different pathologic entities such as bronchopulmonary diseases, anemia, carbon monoxide poisoning, prolonged bedrest or space flights may depress maximal oxygen uptake (7) by interfering at some stage of the transfer of oxygen from ambient air to the cells. For example, lack of gravitational stimuli and immobilization as seen in prolonged space flights may affect venous tone, decrease venous return and right ventricular filling pressure (8). Chronic pulmonary disease is accompanied by a reduction in alveolar ventilation and/or diffusing capacity, resulting in a reduced arterial oxygen content. This would then reduce the A-V oxygen difference and the maximal oxygen uptake during exercise (9). These and other factors should be taken into consideration when evaluating the significance of maximal oxygen consumption.

Patients with angina pectoris are frequently forced to discontinue exercise because of ischemic pain and dyspnea without having reached a maximal oxygen consumption. Although this value for oxygen uptake is not truly a maximal oxygen consumption, it is a very useful index to the physical performance of the subject. In 1967 Robinson (10) reported that the product of the peak systolic pressure and heart rate occurring at the onset of angina pectoris is essentially constant for a particular patient. He also showed that angina pectoris predictably occurs in a patient when this value reaches a critical level.

Several studies have shown that the habitual level of physical activity as well as physical conditioning are important factors in determining maximal oxygen uptake. Saltin (11) showed that following a 20-day period of bed rest, there was a 20 to 25 percent reduction in maximal oxygen uptake due to decrease stroke volume and cardiac output. After several weeks of physical training the maximal oxygen consumption increased 33 percent above the values before bed rest in previous sedentary subjects and 4 percent in previously active subjects. In another study (12), after a 15 week training program, a group of 9 blind middle-aged sedentary men increased the maximal oxygen uptake by 18 percent. Heart volume and serum cholesterol decreased significantly while psychological tests showed improvement of mood during training. Others have shown that exercise is effective in normalizing serum triglycerides in hyperlipemic subjects and can correct type IV and V hyperlipoproteinemias (13). From

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these and other studies (14) enough data has been accumulated to show that there is a decrease in heart rate and an increase in stroke volume after physical training at any given level of oxygen uptake or submaximal work load, which suggests improved mechanical and metabolic performance of the heart. Although exercise training does not increase maximal heart rate, maximal cardiac output and maximal oxygen uptake are both increased. The decrease heart rate at a submaximal work load has been shown to be due to decrease cardiac sympathetic activity (15, 16).

Experimental studies have demonstrated that the hearts of conditioned rats have increased glycogen levels (17) and show a greater response in left ventricular work and mean left ventricular systolic pressure as filling pressure increases. Also, the maximal rate of left ventricular pressure rise (dp/dt) is higher for any level of filling pressure (18). These findings suggest an increase in the contractile state of the left ventricle of conditioned rats probably due to alterations in the contractile proteins since cardiac actinomysin ATPase activity is increased. Conditioned rats also show higher myocardial oxygen consumption and lower lactate production (18).

The increase in oxygen consumption in the conditioned rats is due to an increase in coronary flow with no significant change in coronary arterio-venous oxygen difference. In the sedentary rats it was due to an increase in coronary arterio-venous oxygen difference with no significant change in coronary flow. Further, the cross sectional luminal area of coronary arteries and the capillary-ventricular muscle fiber ratio have been shown to increase with exercise training (19). Others have found that hypoxia produced by coronary artery restriction caused an increase in collateral circulation in dogs; however, mild coronary artery narrowing only provided an increase in collaterals when combined with exercise training (6).

In man, myocardial oxygen supply is related to both the coronary blood flow and the oxygen content of arterial blood. Cardiac muscle extracts close to the maximal amount of oxygen presented to it so that during basal conditions the arterio-venous oxygen difference across the heart is high. Thus increased myocardial oxygen demands are largely met by increased coronary blood flow.

The currently recognized determinants of myocardial energy utilization (or myocardial oxygen demands) are (20):

- a. The basal oxygen consumption.
 - b. The oxygen consumption of activation.
 - c. The oxygen consumption of internal work (tension development x heart rate).
 - d. The oxygen consumption of external work (load and shortening).
 - e. Oxygen consumption required by the contractile state.
- Of these factors, tension development, heart rate and the

contractile state play principal roles in determining the myocardial oxygen demands and energy utilization.

In clinical studies the tension-time index (area under the left ventricular or aortic pressure curve during systole x heart rate), the double product (peak systolic pressure x heart rate) and the triple product (peak systolic pressure x heart rate x ejection time) have all been used as indicators of myocardial oxygen demand.

Effects of Exercise Training in Patients with Ischemic Coronary Artery Disease:

The first description of the beneficial effects of exercise in coronary heart disease was published by Heberden (21) in 1772. He reported that "one of his patients was nearly cured after a six month period of sawing wood for half an hour a day." Since that time, the view that moderate exercise might be beneficial in patients with angina has been voiced and defended by many physicians, while others recommend rest and decreased physical and mental activities. Because of this, physical training and reconditioning had fallen into disrepute until Gottheiner (22) published the results of an active reconditioning program for patients with coronary heart disease. Of 1,103 trainees with ischemic heart disease who remained under observation for five years, 49 died. Nine of the deaths were from non-cardiac causes. The five year mortality rate was 3.6 percent as compared to 12 percent in a comparable series of physically inactive post-infarction patients. Hellerstein (23) report on 656 patients of whom 254 had coronary artery disease revealed that after an active conditioning program involving weight control, diet therapy, cessation of smoking and regular performance of exercise, the patients were able to perform muscular effort more efficiently than before training. They were able to exercise at the same work load with a lower heart rate and blood pressure. Ischemic ST-T changes in the exercise electrocardiogram decreased in two-thirds of the subjects. This observation was also supported by the findings of Detry (24) and Barry (25). Varnauskas (26) reported that the increase in blood lactate resulting from exercise was significantly less after four to six weeks of physical training, thus suggesting an improved oxygen supply to the working muscle cell. Others have demonstrated that the maximal oxygen intake of patients with coronary heart disease can be significantly increased by a reconditioning program (27). The effects on cardiac output and arterio-venous oxygen difference have varied (27, 28). Some have reported an unchanged cardiac output and A-V oxygen difference after exercise training while others found a decreased cardiac output accompanied by an increased arterio-venous oxygen difference. Frick (28) performed left heart catheterization

during rest and exercise in patients with ischemic heart disease. Some of the patients had undergone exercise training. Their findings revealed improved left ventricular function after training as compared to the control group. The wedge pressure increased less and the stroke volume increased more from rest to exercise in the group of patients that had been trained as compared to those who did not.

In summary it has been shown by different investigators that patients with ischemic coronary heart disease enrolled in an adequate supervised exercise training program appear to:

1. Decrease heart rate and blood pressure at a submaximal work load, indicating a reduced myocardial oxygen demand, increased work capacity and exercise tolerance (29,30).
2. Increase the heart rate-blood pressure product in relation to the onset of pain in effort angina pectoris (31).
3. Decrease ST-T wave changes in the resting electrocardiogram (23).
4. Decrease production of blood lactate during submaximal exercise (26).
5. Increase maximal oxygen uptake and stroke volume (27).
6. Improve left ventricular performance (28).
7. Increase survival rates (22).
8. Show variable effects on cardiac output and A-V oxygen difference (27, 28).

The above observations imply that both subjective and objective parameters show improvement in patients with coronary artery disease after exercise training. The improvements have to be mediated through one or more of the following mechanisms: a) decrease in myocardial oxygen demand; b) increase myocardial oxygen supply through an increase in collateral circulation or by an increase in the blood capacity of the pre-existing collaterals; c) shifts in the oxyhemoglobin dissociation curve as to decrease the affinity of hemoglobin for oxygen thus increasing the available oxygen to the myocardium.

It has been conclusively shown by the work of Hellerstein (23), Detry (27), and Redwood (30) that exercise training decreases myocardial oxygen demand. They demonstrated that the double product (heart rate x blood pressure) and triple product (heart rate, systolic arterial pressure and ejection fraction) measured at the same work load before and after exercise training were lower after training. In one of these studies it was shown that the beneficial effects of training are maintained after discharge from the hospital (30). The reduced myocardial oxygen demand at a given exercise load permits the patient to achieve a higher work load and oxygen consumption before the double or triple product previously associated with the onset of angina is reached (29). Redwood (30) concluded that after exercise training, a higher triple

product can be achieved at the onset of angina, thus suggesting improved myocardial oxygen delivery. However, Detry (24) showed that although training reduces myocardial oxygen demands at a given work load the relation of the degree of ST segment depression to the double product remains unchanged at any given work load, suggesting that myocardial oxygen delivery is not increased.

It is now known whether exercise training influences the oxyhemoglobin dissociation curve. It has been reported (32-34) that 2, 3 diphosphoglycerate (2, 3 DPG) is one of the factors within red blood cells that facilitates the release of oxygen from hemoglobin. Production of 2, 3 DPG is enhanced by hyperventilation, acute changes in pH, CO₂ temperature and relative hypoxia (33). As the concentration of 2, 3 DPG increases, the oxyhemoglobin dissociation curve shifts to the right facilitating the release of oxygen to the tissues. This offers a potential mechanism for improving the oxygen supply to high oxygen demand organs such as the heart. However, further investigation is needed to clarify this interesting observation.

The question whether exercise training increases collateral circulation has not been answered. In 1957, Eckstein (6) showed that in dogs, mild coronary artery narrowing only provided an increase in collaterals when combined with exercise training. Several years later Hellerstein (35) performed coronary angiograms in two patients before and after exercise training. In one subject that had a well-defined obstruction of a major coronary artery, there was clear evidence of an increase in collateral circulation after the training program. In another there was no evidence of increased collateral circulation after he showed definite improvement in performance following the exercise training program. He concluded that of the patients that show improvement in exercise performance after physical training, some may show an increase in coronary collateral circulation thus explaining the beneficial effects in performance; however, others do not and their improved performance may be due to other factors. The largest group of patients with coronary arteriographic findings before and after training programs was reported by Kattus (36). Of 14 patients, 6 had improvement of exercise performance and 4 did not. Four other patients remained sedentary, did not participate in the training program and did not show any change in exercise performance.

Of the 6 patients that showed improvement, 4 patients showed increase collateral circulation and 2 did not. All 4 patients with increase collateral circulation had progression of their occlusive arteriosclerotic coronary lesions, thus explaining the presence of collateral circulation. Of the 4 patients who did not improve after training, all had progressive occlusive coronary disease and none showed increase collaterals. In the group of patients that remained sedentary

and who did not follow a training program, 3 developed progressive occlusive disease and increase collateral circulation; however, none improved their exercise performance. This report, the most complete up to date, seems to indicate that the development of collateral circulation is not dependent on exercise training, that the presence of collateral circulation does not guarantee increase exercise tolerance and performance and that exercise training can improve performance in the absence of increased collateral circulation. It is clear that the progression of coronary arteriosclerosis was not altered. However, it should be mentioned as has been pointed out by others, that blood flow was not measured through the collateral circulation before and after training. The possibility of increase blood flow through the collateral vessels as well as anatomic changes in small vessels not detected by current angiographic techniques exists.

If it is difficult to answer the question of increase collateral circulation, even more controversial is the question whether exercise training decreases morbidity and mortality in patients with coronary artery disease. The data from previous studies revealed that mortality rates of patients with coronary artery disease on an exercise training program was 3.6 percent as compared to 12 percent in a group of physically inactive subjects (22).

In another study the mortality of trained patients was 1.6 per hundred subject years as compared to 3.5 in a group of untrained subjects (35). Other epidemiologic studies have suggested that regular exercise is associated with fewer serious and fatal complications of coronary artery disease. Although the above suggests that longevity may be increased, a definite study has not been performed and a conclusive answer to this important question is not available.

(To be continued)

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VENTRICULAR RHYTHMS AFTER INTRAVENOUS ATROPINE

Pablo I. Altieri, MD

The use of intravenous atropine for bradycardias is a well known therapeutic use of the drug (1-2). Lately several investigators have been challenging the indiscriminate use of this drug, because of the arrhythmias observed after its intravenous use (3). Averill reported A-V dissociation, ventricular parasystole, atrial arrhythmias and A-V block (4). Massumi reported ventricular fibrillation and repetitive ventricular ectopic beats (3). Ebstein has been challenging its use in the treatment of the bradycardia seen with a myocardial infarct, because they found an increase in the injury current, related to the increase in heart rate (5).

It is the purpose of this paper to discuss two cases of ventricular rhythms observed after the use of atropine.

Case Reports

Case 1

This was a 33-year old male patient who was scheduled for surgery to repair a hiatal hernia. Before surgery an electrocardiogram showed sinus rhythm with a rate of 62 beats/min., a P-R interval of 0.16 sec. (Fig. 1a). He was given 0.4 mg. of atropine intravenously. Fifteen seconds later, he developed ventricular bigemini (Fig. 1b). This rhythm lasted for about 10 minutes. It disappeared spontaneously.

Case 2

This was a 58-year old female patient with ischemic heart disease and diabetes, who was receiving digoxin, Lasix and aldactone. She was admitted to the hospital for amputation of the fourth and fifth toes of her right foot.

Two days after surgery a routine electrocardiogram showed ventricular trigemini. She was given 0.6 mg. of atropine intra-

venously. About 20 seconds later, leads II and VI which were monitored continuously showed the ventricular trigemini changing to a ventricular tachycardia with a left axis-right bundle branch block configuration (Fig. 2). The rate was about 125 beats/min. This ventricular tachycardia was observed for about two minutes with spontaneous conversion to sinus rhythm.

Discussion

The adverse cardiac effects of atropine have been under extensive discussion (3-5). This is due to the fact of the higher incidence of ventricular arrhythmias being observed after its intravenous use (3). Table 1 shows the rhythm abnormalities which have been described after the use of atropine.

Ebstein and co-workers showed that in experimental myocardial ischemia the increase in heart rate observed after intravenous atropine causes an increase in the injury current. Also they showed an increase in the non-homogeneity of the refractory periods, and the vago-

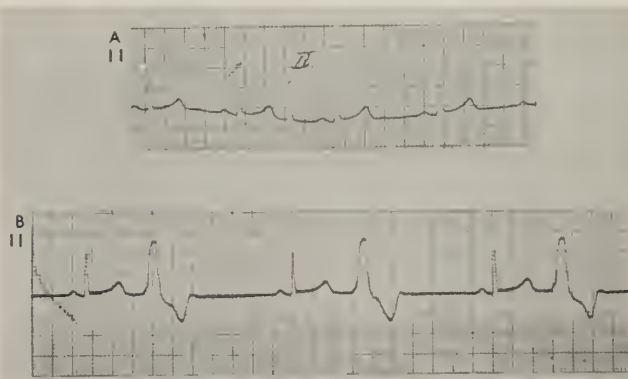


Fig. 1: (a) Lead II showing sinus rhythm with a rate of 62 beats/min., P-R interval of 0.16 seconds. (b) Lead II showing ventricular bigemini.

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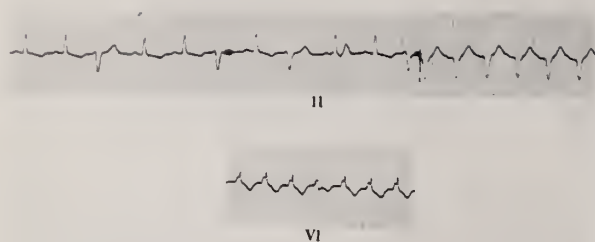


Fig. 2: Leads II and VI showing ventricular trigemini changing to a ventricular tachycardia with a left-axis-right bundle configuration.

TABLE I
**RHYTHM ABNORMALITIES AFTER INTRA-
VENOUS ATROPINE**

1. A-V dissociation
2. A-V block
3. Ventricular parasystole
4. Ventricular ectopic beats
5. Ventricular fibrillation
6. Ventricular tachycardia
7. Atrial arrhythmias

lytic effect decreases the fibrillation threshold of the ischemic and non-ischemic myocardium (5). The consequence of these electrophysiologic changes is that the myocardium is more prone to develop fibrillation, ectopic rhythms and re-entrant activity.

In our first patient there was no history of heart disease, but apparently his vagal tone was at its height. Some investigators have observed that the influence of atropine is most noticeable in healthy young adults in whom vagal tone is at its height (6). Probably, as pointed by Ebstein, the vagus has a stabilizing effect on the heart activity. By blocking it, the development of an ectopic focus was enhanced.

Our second patient had ischemic heart disease. Probably the use of atropine increased the disparity of the refractory periods, facilitating re-entrant activity or the appearance of an ectopic focus firing at a rapid rate.

These observations are very important, especially when atropine is being used so frequently in the intensive care units in patients with myocardial infarction.

Great care should be taken when the decision of giving atropine is taken, because of the fatal ventricular arrhythmias that could develop. Constant monitoring should be done during its administration, and all equipment for cardiac resuscitation should be ready for emergency use.

Summary

The safety of intravenous atropine has been challenged lately, because of the high incidence of ventricular arrhythmias after its use. Two cases of ventricular arrhythmias were observed after atropine: (1) ventricular bigemini, and (2) ventricular tachycardia. Precautions such as continuous monitoring and the availability of cardiac resuscitation equipment should be taken during atropine administration in case ventricular arrhythmias develop.

Resumen

El uso indiscriminado de atropina en el tratamiento de problemas cardíacos ha sido cuestionado ultimamente debido a que se ha observado arritmias ventriculares con su uso. Dos casos de arritmias ventriculares fueron observados: (1) bigeminismo ventricular (2) taquicardia ventricular.

Se recomienda que durante el uso de atropina intravenosa, especialmente en pacientes con enfermedad coronaria, se tenga todo el equipo necesario para resucitación cardíaca, en caso de que se observen arritmias especialmente ventriculares.

Acknowledgment

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HISTORIAL Y FUTURO DEL HOSPITAL NAVAL DE RADAS ROOSEVELT

La tradición militar-médica iniciada por el Doctor Bailey Ashford en 1898 culminó durante la pasada celebración del descubrimiento de Puerto Rico. El 19 de noviembre de 1973, comenzó a operar un moderno hospital general de 120 camas en la Base Naval de Ceiba. La construcción de dicho centro médico a un costo de \$7.66 millones fue comenzada en abril de 1970. Esta moderna instalación de la Marina de los EE. UU. lleva como cometido principal el cuidado médico del personal militar en las Antillas. Sin embargo, los servicios médicos también se extienden al personal retirado de las fuerzas armadas, a sus dependientes y a un número limitado de veteranos.

El Hospital Naval de los EE. UU. en Ceiba, Puerto Rico, cuenta con ramificaciones en la Estación de Comunicaciones Naval, Fort Allen, en Ponce, así como dispensarios en Sabana Seca y en el Anexo Oeste de la Estación Naval de Roosevelt Roads en Aguadilla (anteriormente Base Aérea de Ramey), así como un pequeño dispensario en la Isla de Vieques, Puerto Rico. Varios dispensarios ramificados en el Caribe así mismo sirven de suplidores de casos clínicos al Hospital de Roosevelt Roads.

En el 1943, un área de operaciones de la Marina de los E. U. fue comisionada al Este de Puerto Rico como una facilidad mayor de playa para la defensa del Caribe. Dicha área se localizó frente a las radas al Este del pueblo de Ceiba. En honor al presidente Roosevelt se le llamó Radas Roosevelt or Roosevelt Roads. Como dato histórico-curioso sobresale el hecho de que Radas Roosevelt era el lugar designado para transportar al Rey y a la Reina de Inglaterra de haber ocupado Alemania a Gran Bretaña. Aún cuenta la Base Naval de Roosevelt Roads con instalaciones designadas para este propósito.

De todos modos, para el final de la Segunda Guerra Mundial, los planes de engrandecimiento de la Base Naval de Roosevelt Roads, fueron pospuestos. Las facilidades médicas de Radas Roosevelt se mantuvieron al nivel de un pequeño dispensario, siendo el mayor centro militar médico del Caribe el Hospital de Fort Brooke en San Juan. Los próximos catorce años después de la Segunda Guerra Mundial fueron años de incertidumbre para la existencia de la Base Naval de Ceiba. En varias ocasiones, la Base Naval tuvo amenazas de cerrarse completamente. Fue para el 1957 cuando Roosevelt Roads fue definitivamente asignada como una estación naval para dar mantenimiento al Centro de Cohetes Teledirigidos de la Flota de Atlántico de los E. U. Aún entonces, el departamento médico consistía de un pequeño dispensario localizado sobre la tienda de provisiones.

La primera expansión de la facilidad médica vino en el año 1960 cuando se aumentaron sus camas a diez después de una inversión de un millón y medio de dólares. Más adelante, en 1962, una segunda extensión fue completada. Dicho dispensario, que para el año de 1962 consistía de 34 camas, fue designado como un hospital. Coincidente con el cierre del hospital militar Rodríguez en julio de 1970, el pequeño hospitalillo de la estación fue agrandado, utilizando edificios temporeros y aumentando el número de camas hasta 70, y obteniendo la clasificación de Hospital General en noviembre de 1970.

El 1 de enero de 1971, el Hospital Naval de la Marina de los E. U. en Roosevelt Roads, Ceiba, Puerto Rico, fue establecido definitivamente como una actividad médica de playa, bajo el comando del Jefe del Buró de Medicina y Cirugía, con la misión de llevar cuidado clínico general particular-

mente al personal en servicio activo de la Armada, el Cuerpo de Infantes de Marina, miembros en servicio activo de otras ramas de las fuerzas armadas, dependientes de personal en servicio y otro personal autorizado. El personal médico, paramédicos, civil y militar para ese tiempo consistía de 200 individuos.

El nuevo hospital viene a reponer aquel antiguo hospital de 70 camas en Roosevelt Roads, y viene a llenar un vacío dejado en el cuidado médico militar en Puerto Rico, por la desaparición en mayo de 1970 del Hospital Rodríguez en el Ft. Brooke, en San Juan, y el hospital de la base aérea de Aguadilla en 1973. El moderno hospital consiste de 125,000 pies cuadrados condensados en un edificio de tres plantas y tres alas, con una arquitectura moderna y equipado para llevar un cuidado médico completo en las mayores ramas de la medicina. Consultores médicos privados proporcionan una capacidad médica más extensa en las distintas subespecialidades médicas. El Hospital cuenta asimismo con un campo de aterrizaje para helicópteros donde se reciben pacientes de diferentes puntos del Caribe y los dispensarios de Puerto Rico. Un aerospital con personal especializado hace de puente aéreo con los mayores centros médicos militares y civiles de los Estados Unidos, cada dos semanas.

En la actualidad el hospital emplea 225 individuos en servicio activo y alrededor de 100 civiles. El Oficial al Mando, además de dirigir las ramificaciones del hospital en la Isla de Puerto Rico, tiene a su cargo la dirección del Cuerpo Médico del Décimo Distrito Naval del Caribe. El nuevo hospital sirve a una población de alrededor de 75,000 beneficiarios retirados y sus dependientes.

Dentro de los planes futuros se proyecta una sólida coordinación con las facilidades médicas de Puerto Rico, sea ya por consultas directas con diferentes médicos del área en Puerto Rico o bien por medio del plan de cuidados médicos de las fuerzas militares (CHAMPUS). Estos dos sistemas dan flexibilidad y amplitud a la interrelación de servicios prestados con las facilidades médicas civiles. En los planes futuros inmediatos está el expandir las facilidades de comunicación con otras instalaciones médicas y paramédicas civiles en Puerto Rico así como la expansión del actualmente modesto, pero dinámico, sistema de educación médica continuada. La institución permanece activa en un dinámico esfuerzo por el mejoramiento de las relaciones entre la comunidad médica civil y las autoridades médicas militares para el mejoramiento del cuidado de nuestra población civil y militar.

Gonzalo V. González, Liboy, CDR, MC, USNR
Jefe de Medicina Interna

NOTA DEL EDITOR

L A I N F L A C I O N

Ha subido el costo de la vida en Puerto Rico en forma desmesurada en los últimos años. Al Igual que afecta a todos los habitantes del país, y a todas las Instituciones, también el Boletín de la Asociación Médica de Puerto Rico se ve en la necesidad de tomar medidas para reducir los costos de su publicación.

Ante la situación actual, la Junta Editora del Boletín, ha decidido tomar medidas para el control de los costos mencionados.

En el futuro, no se publicarán las bibliografías sometidas como parte de los manuscritos. En su lugar, a cualquier interesado, se le enviará fotocopia de las bibliografías. Después de un año, el autor será responsable por cualquier pedido de los lectores en cuanto a bibliografía. Sin embargo, esto no significa que los manuscritos se afectarán sin bibliografía. Deberá acompañar los trabajos sometidos.

Lamenta la Junta Editora tener que incrementar estas medidas, pero se ve obligada a hacerlas para subsistir económicamente.

INFORME COMITE MEDICO ASESOR DE LA COMISION SOBRE SEGURO DE SALUD UNIVERSAL SOBRE PLAN DE SEGURO DE SALUD UNIVERSAL

MEMORANDO A: Matrícula de la Asociación Médica de Puerto Rico

DE: Rosa E. Fiol, MD - Presidente

ASUNTO: Informe Comité Médico Asesor de la Comisión Sobre Seguro de Salud Universal sobre Plan de Seguro de Salud Universal

Cuando fui designada por la Comisión Sobre Seguro de Salud Universal como representante de la Asociación Médica de Puerto Rico en la Junta Consultiva de la Comisión, consideré mi obligación mantener a toda la matrícula informada sobre un asunto de tanta importancia como éste.

Como ustedes saben, esa decisión mía trajo como consecuencia el que tuviera que salir de la Junta Consultiva, ya que según la Comisión yo no representaba a la Asociación Médica de Puerto Rico, y por tanto no podía informarla de lo que estaba ocurriendo.

La Comisión designó entonces al Dr. Angel Rodríguez Rodríguez para representar a los médicos en la Junta Consultiva, y posteriormente constituyó un Comité Médico Asesor integrado por 34 médicos.

En la reunión de nuestra Cámara de Delegados celebrada el pasado sábado 25 de mayo el Dr. Angel Rodríguez Rodríguez hizo entrega tanto al Presidente Electo y Saliente de nuestra Asociación, como a esta servidora del Informe de referencia.

Siguiendo la pauta que me tracé desde el principio, les estoy enviando dicho Informe para conocimiento general.

Estamos estudiando el documento exhaustivamente y próximamente les enviaremos nuestros comentarios.

También les incluyo el voto disidente presentado por cinco miembros de dicho Comité.

INFORME DEL COMITE MEDICO ASESOR DE LA COMISION DE SEGURO DE SALUD UNIVERSAL SOBRE EL PLAN DE SEGURO UNIVERSAL DE SALUD

Miembros del Comité Médico Asesor de la Comisión de Seguro de Salud Universal *

1. Dr. Rafael Burgos Calderón — Catedrático Auxiliar, Escuela de Medicina de la U. P. R. - Presidente Facultad Hospital Universitario.
2. Dra. Alma Cajigas - Directora Servicios Médicos Auxiliares, Corporación del Centro Médico de Puerto Rico.
3. Dr. Amaury Capella - Presidente Electo Capítulo de Puerto Rico, Colegio Americano de Cirujanos.
4. Dr. Santiago Casanova Díaz - Expresidente Capítulo de

Puerto Rico, Colegio Americano de Cirujanos.

5. Dr. Egidio Colón Rivera - Director Auxiliar Curso Actualización Médica, Escuela de Medicina, Universidad de Puerto Rico.
6. Dr. Héctor Feliciano - Expresidente Academia Americana de Médicos de Familia - Capítulo de Puerto Rico.
7. Dr. Lino Feliciano - Expresidente Academia Americana de Médicos de Familia - Capítulo de Puerto Rico.
8. Dr. Eugenio Fernández Cerra - Ex-Vicepresidente de la Comisión de Salud y Beneficencia del Senado de P. R.
9. Dr. José Luis Galarza Arbona - Médico en el servicio público en Utuado, Puerto Rico.
10. Dr. Mario R. García Palmieri - Catedrático y Jefe de Departamento de Medicina de la Escuela de Medicina de la Universidad de Puerto Rico.
11. Dr. Carlos Girod - Decano de la Escuela de Medicina de la Universidad de Puerto Rico.
12. Dra. Aida Guzmán Font - Sub-Secretaria Departamento de Servicios Contra la Adicción.
13. Dr. Ramón Isales - Expresidente - Capítulo de Puerto Rico. Colegio Americano de Cirujanos.
14. Dr. José Licha - Expresidente de la Asociación Médica de Puerto Rico.
15. Dr. Raúl Marcial Rojas - Catedrático y Jefe de Departamento de Patología de la Escuela de Medicina de la Universidad de Puerto Rico.
16. Dr. Norman Maldonado - Hematólogo - Director Médico Hospital Municipal de San Juan.
17. Dr. Roque C. Nido - Jefe Cirugía Hospital Sub-Regional de Guayama, Director Médico de la Sub-Región de Guayama.
18. Dr. Adán Nigaglioni - Rector Recinto de Ciencias Médicas de la Universidad de Puerto Rico.
19. Dr. Víctor M. Pagán - Ex-Director de Beneficencia de San Sebastián, Puerto Rico.
20. Dr. Guillermo Picó - Catedrático y Jefe del Departamento de Oftalmología de la Escuela de Medicina de la Universidad de Puerto Rico.
21. Dr. Elí A. Ramírez - Jefe de Medicina, Hospital de Veteranos de Puerto Rico.
22. Dr. José Ramírez Rivera - Director de Educación Médica e Investigaciones Clínicas, Región Oeste; Jefe del Departamento de Medicina del Centro Médico de Mayagüez.
23. Dr. Angel Rodríguez Rodríguez - Pasado Presidente Sociedad de Médicos Graduados de la Escuela de Medicina de la U. P. R.; Miembro Junta Consultiva Comisión de Seguro de Salud Universal.
24. Dr. Héctor Rodríguez - Jefe Departamento de Medicina y Director División Cardio-renal, Hospital de Distrito de

Ponce.

25. Dr. José M. Torres Gómez - Expresidente de la Asociación Médica de Puerto Rico.
26. Dr. Luis Torres Oliver - Director Médico Hospital de la Concepción, San Germán.
27. Dr. Justino del Valle - M.P.H. - Expresidente Asociación de Salud Pública de Puerto Rico.

**La participación de los miembros del Comité ha sido puramente en su capacidad personal y no en representación de las instituciones u organizaciones en las cuales ocupan o han ocupado posiciones.*

Informe del Comité Médico Asesor de la Comisión de Seguro de Salud Universal sobre "EL PLAN DE SEGURO DE SALUD UNIVERSAL"

El Dr. Juan B. Aponte, en su capacidad de Presidente de la Comisión de Seguro de Salud Universal, citó a un grupo de médicos a una reunión a celebrarse el 9 de enero de 1974 con el propósito de "tener un amplio intercambio de ideas sobre varios aspectos importantes del Seguro de Salud Universal que la Comisión está planificando".

El grupo de médicos citados fue el siguiente:

1. Dr. Angel Rodríguez Rodríguez
2. Dr. Guillermo Picó
3. Dr. Egidio Colón Rivera
4. Dr. Carlos Girod
5. Dr. Mario García Palmieri
6. Dr. Norman Maldonado
7. Dr. José M. Torres Gómez
8. Dr. José S. Licha
9. Dr. Eugenio Fernández Cerra
10. Dr. Amaury Capella
11. Dr. Santiago Casanova Díaz
12. Dr. Justino del Valle
13. Dr. Bernardino González
14. Dr. Adán Nigaglioni
15. Dr. José Nine Curt
16. Dr. Rafael Burgos Calderón
17. Dr. Héctor Rodríguez
18. Dr. José Ramírez Rivera
19. Dr. Luis Torres Oliver
20. Dr. Roque C. Nido
21. Dr. Ramón Isaías
22. Dr. José Soler Zapata
23. Dr. Héctor A. Feliciano
24. Dr. Lino Feliciano
25. Dr. José Álvarez Álvarez
26. Dr. Antonio Silva
27. Dra. Aida Guzmán Font
28. Dr. José Luis Galarza
29. Dr. José A. Pereyó
30. Dra. Alma Cajigas
31. Dr. Víctor M. Pagán

En dicha reunión que se celebró en el Restaurante Zipperle el doctor Aponte se expresó en la forma siguiente:

"Como procedimiento de consulta optamos por invitar a un grupo de médicos de amplia experiencia profesional, que se

hayamos distinguido tanto por sus ejecutorias profesionales como por sus posiciones de liderato dentro de la profesión y/o en la comunidad; en Puerto Rico y en el exterior, y que a la vez representen las distintas especialidades, las distintas áreas de servicio profesional - práctica privada, servicio público y la academia - las distintas áreas geográficas de Puerto Rico y representación de médicos graduados de nuestra Escuela de Medicina y en escuelas del exterior.

El grupo de médicos aquí presente fue escogido con arreglo a estos criterios y todos merecen crédito por sus valiosas aportaciones a la práctica de la medicina en Puerto Rico.

Es nuestro interés pedirles que se constituyan en un Comité Asesor sobre Pagos a Médicos de la Comisión. Confiamos que el fruto del esfuerzo de este Comité hará posible lograr un consenso de opinión entre la Comisión y la profesión médica en torno al método de retribución a médicos bajo el plan de seguro universal".

Fue el sentir general de los presentes que no podían ni estaban en disposición de asesorar sobre la compensación a los médicos participantes en un plan de seguro universal de salud sin conocer los detalles del mismo y sin aquilatar su impacto en los servicios de salud que se le prestarían al pueblo. Se pidió que se ampliara la encomienda para que el grupo de médicos citados se convirtiese en un Comité Médico Asesor de la CSSU para lo cual se le facilitarían todos los estudios llevados a cabo, para y por la CSSU, además de informárseles las decisiones adoptadas por la CSSU hasta el momento.

Este planteamiento fue aceptado por el Dr. Aponte en nombre de la CSSU y se constituyó entonces formalmente el Comité Médico Asesor de la CSSU procediéndose a elegir como su Presidente al Dr. Mario R. García Palmieri, Ex-Secretario de Salud de Puerto Rico. Se acordó además que la CSSU citaría al Comité a su más pronta conveniencia para que éste pudiese comenzar sus trabajos.

El Comité Médico Asesor fue citado para celebrar su primera reunión el sábado 16 de febrero de 1974. Para la misma la CSSU añadió al grupo original de médicos a los Drs. R. Marcial Rojas, Elí A. Ramírez y Raúl A. Yordán. Esta reunión se llevó a cabo en el Salón del Senado Académico del Recinto de Ciencias Médicas de la Universidad de Puerto Rico. Durante la mañana, además de informar sobre varios documentos, el Dr. Aponte explicó el alcance del documento sobre "Política General y Principios Fundamentales del Seguro de Salud Universal" adoptado por la CSSU y circulado al Comité Médico Asesor con anterioridad a la reunión. Por la tarde se procedió a la organización y planificación de la labor del Comité seleccionándose al Dr. R. Marcial Rojas, Profesor de Patología de la Escuela de Medicina de la Universidad de Puerto Rico, como Vice-Presidente y al Dr. Justino del Valle, Director Médico de la Asociación de Maestros de Puerto Rico, como Secretario del mismo.

El documento de Política General provocó numerosas preguntas y reacciones de discrepancia con algunos conceptos contenidos en el mismo, solicitándose que se nos facilitara copia de los estudios que se suponía le hubiesen dado base a dicho documento. En dicha reunión el Comité Médico Asesor obtuvo la impresión que las bases esenciales del do-

cumento de Política General habían sido establecidas por la CSSU previas a la terminación de la mayoría de los estudios ordenados por la misma.

Se acordó además, con la CSSU que se grabarían las deliberaciones del Comité con el objeto de transcribir las mismas y poder usarlas el Comité en la preparación de su informe final.

La CSSU sometió la siguiente lista de estudios e informes:

1. Descripción del Sistema Actual.
2. Las Condiciones de Salud de la Población de Puerto Rico.
3. Planes Médicos de las Uniones Obreras.
4. Evaluación del Plan "Libre Selección".
5. Aspectos Problemáticos de la Legislación Farmacéutica.
6. Control de Costo en los Procedimientos Diagnósticos.
7. Sistema de Información para el Control de Drogas y Medicamentos.
8. Informe Sobre Recursos Humanos.
9. Organización y Gerencia del Seguro (Tres documentos por el Dr. Aharon Beged-Dov., Sr. William Busat y el Dr. Vicente Navarro).
10. El Presupuesto Global y su Control.
11. La Auditoría Externa del Seguro Universal.
12. Encuesta a Farmacéuticos.
13. La Salud y la Calidad Ambiental.
14. Planes Médicos de las Compañías de Seguro Comerciales.
15. Beneficios a Cubrirse por el Seguro.
16. Informe Sobre Regionalización de Servicios.
17. Estudio del Sistema de Información.
18. Los Controles de Calidad bajo el Seguro Universal.
19. Fuentes de Financiamiento*.
20. Estudios de Costos.*
21. Encuesta a Consumidores.*
22. Encuesta a Médicos y Dentistas.*
23. Informe Sobre Salud Oral.
24. Estudio Sobre Educación Médica.*
25. Estudio Comparado de Planes de Salud.*

** En preparación*

Copia de estos estudios fueron posteriormente facilitados al Comité Asesor con excepción de los estudios Núm. 19, 20, 21, 22 y 25.

El Comité Asesor celebró su próxima reunión el 3 de marzo y en el interim se crearon ocho sub-comités, dividiéndose entre ellos la consideración, estudio y evaluación de los distintos informes sometidos por la CSSU y a su vez encomendándoseles informasen al Comité en pleno el contenido de dichos estudios y sus observaciones sobre los mismos. Debido a que el Comité Médico Asesor debía rendir su informe a la CSSU a fines de abril de 1974 se consideró que esta forma de trabajo era la única que permitiría considerar a fondo los 20 estudios sometidos en el escaso período de tiempo que se disponía para ello. A pesar de esta limitación en tiempo los miembros del Comité Médico Asesor, entre las reuniones del Comité en pleno, las de los sub-comités separadamente y en estudios individuales han dedicado combinadamente más de 1,500 horas al estudio, consideración y discusión del material reuniéndose durante los fines de semana, días feriados y noches durante días laborables. Véase Anexo Núm. 1.

Durante los trabajos del Comité Médico Asesor se dieron de baja por tener dificultades para poder participar en el mismo a los siguientes médicos:

1. Dr. B. González Flores
2. Dr. José Alvarez Alvarez
3. Dr. J. Nine Curt
4. Dr. J. Soler Zapata
5. Dr. Antonio Silva
6. Dr. José A. Pereyó
7. Dr. Raúl A. Yordán

Los autores de los estudios e informes sometidos por la CSSU fueron:

Número Estudio	Autor
1	Comisión de Seguro de Salud Universal
2	Olga I. Sáez
3	CSSU - Departamento de Salud
4	Eliseo Echeagarai, Annette B. Ramírez de Arellano y Olga I. Sáez
5	Joseph C. Laws y Reinaldo Pérez Ramírez
6	O. W. Busat
7	O. W. Busat
8	Estudios Sociales y de Salud, Inc.
9	O. W. Busat (varios), Vicente Navarro y Aharon G. Beged-Dov
10	O. W. Busat
11	O. W. Busat
12	CSSU (Colaboración del Colegio de Farmacéuticos y del Departamento de Salud)
13	Comisión de Seguro de Salud Universal
14	Comisión de Seguro de Salud Universal
15	Dr. Luis S. Miranda
16	Estudios Sociales y de Salud, Inc.
17	Estudios Sociales y de Salud, Inc.
18	Dr. Juan T. Tomasini
23	Dr. José M. Saldaña (Dres. Allukian, Bathwel, Fisher, Grivvel, Hoggard, Lewis, Smith, Sorikelli, Sonken y Sherman)
24	Dres. Francisco Ramos Morales y Guillermo Arbona

El Comité Médico Asesor considera que los estudios sometidos por dichos consultores tienen un mismo enfoque, llegan a una misma conclusión y proponen un mismo sistema. Es de todos conocido que no hay un consenso entre los expertos en el campo de los servicios de salud en cuanto al enfoque que debe prevalecer en la preparación de un seguro universal de salud. Evidencia de esto es que en el Congreso de los Estados Unidos hay actualmente varios proyectos, en adición a los auspiciados por la Asociación Médica Americana, Asociación Americana de Hospitales y las compañías de seguro, que propugnan distintos puntos de vista. Nos referimos a los proyectos presentados por los Senadores Ribicoff y Long, por el Senador Javits, por el Departamento de Salud, Educación y Bienestar y recientemente por el Senador Kennedy y el Representante Mills. *Hay consenso en que debe de haber un cambio, en lo que no hay consenso es cuál debe ser el cambio.*

Después del estudio de todos los documentos sometidos por la CSSU al Comité Médico Asesor, éste considera que hubiese sido más científico y objetivo el haber seleccionado para estos estudios a consultores con diferentes puntos de vista. De esta forma la CSSU y los organismos y dirigentes del país a quien finalmente corresponderá tomar una decisión hubiesen tenido ante sí distintas alternativas para llegar entonces a conclusiones

tomando en consideración las ventajas y desventajas de cada una de las posibilidades.

Del análisis de los estudios sometidos por la CSSU al Comité Médico Asesor se desprenden los siguientes datos:

Los índices de salud de Puerto Rico comparan favorablemente con los de los países más adelantados del mundo. La esperanza de vida del puertorriqueño supera incluso la del continental estadounidense. Véase Anexo Núm. 2. Sin embargo, nuestra mortalidad infantil es relativamente alta comparada con los países antes mencionados a pesar de que el 98 por ciento de nuestros nacimientos ocurren en hospitales. En la región Norte de Puerto Rico la mortalidad infantil es más del doble de la del resto de la Isla. Es bueno apuntar que en dicha región los niveles de escolaridad y salubridad son de los más bajos de Puerto Rico. La mortalidad infantil está ligada a las condiciones ambientales de salud, a la efectividad de los programas de cuidado a la madre y el niño, en adición a los servicios médico-hospitalarios. En todos estos renglones la región Norte está rezagada.

En Puerto Rico hay 135 hospitales generales y especiales públicos y privados, con un total de 12,334 camas. Aproximadamente el 64 por ciento de los hospitales e igual por ciento del número de camas son operados por el Gobierno y el 36 por ciento por el sector privado. Hay 19 municipios que cuentan con hospitales privados.

En 1970 los hospitales privados tuvieron 90 por ciento utilización y proveyeron el 46.7 por ciento de todos los días-pacientes a pesar de solamente contar con el 36 por ciento de las camas. En el sector gubernamental, los 6 hospitales grandes tuvieron una ocupación de 80.5 por ciento y los Centros de Salud de 45.9 por ciento. En el sector público solo 19 de 84, o sea, el 25 por ciento de los hospitales gubernamentales operan con licencia regular. En el sector privado 28 de 48 hospitales, o sea, el 58 por ciento operan con licencia regular. En cuanto a la acreditación por la Comisión Conjunta de Acreditación de Hospitales (Joint Commission on Accreditation of Hospitals) 10 de 84 hospitales en el sector público (11.9 por ciento) y 18 de 48 hospitales (37.5 por ciento) en el sector privado cuentan con ese reconocimiento. Estos datos indican que *hay una mayor productividad y eficiencia en el sector privado que en el sector gubernamental salvo honrosas excepciones.*

En 1972 Puerto Rico gastó en servicios de salud aproximadamente \$505.4 millones. De éstos el Gobierno estatal y municipal gastaron \$158 millones, el gobierno federal \$103.4 millones y el sector privado \$244.0 millones. Esto significó un gasto promedio anual "per capita" de \$182.00, que fue un 8.7 por ciento del producto bruto nacional. Las cifras correspondientes a Estados Unidos para el año 1972 fueron \$393.00 — gasto promedio anual "per capita" equivalente a 7.6 por ciento del Producto Bruto Nacional. Datos ofrecidos por el "Social Security Administration" revelan que para el año 1973 en Estados Unidos el gasto per capita fue \$441.00 equivalente al 7.7 por ciento del producto bruto nacional. Esto representa un aumento de 11.6 por ciento sobre el año anterior. No tenemos la información para el 1973 correspondiente a Puerto Rico, pero podemos asumir que nuestra experiencia habrá sido similar. La tendencia al aumento en los costos de servicios de salud es condición universal.

A pesar que en los últimos 24 años se han invertido aproximadamente \$250 millones en construcción y mejoras en las facilidades de salud, el número de camas ha permanecido más o menos igual desde 1958 hasta el presente. Contamos en la actuali-

dad con 3.2 camas generales por 1,000 habitantes y para alcanzar la meta de 3.5 camas generales y 3.0 de cuidado prolongado por 1,000 habitantes y reemplazar o remodelar las camas inaceptables existentes, se necesitaría la inversión de \$280 millones adicionales por el sector público y privado.

Ha habido un aumento en los costos de servicios de salud que según el estudio preparado para la CSSU se atribuye a los siguientes factores:

1. Aumento en el número de personas dedicadas al cuidado de la salud.
2. Aumento constante en los salarios de este personal.
3. Los desarrollos tecnológicos.
4. El desarrollo de nuevas drogas.
5. La tendencia inflacionaria.

Del informe sobre recursos humanos preparado para la CSSU se desprende que en 1972 en Puerto Rico habían 3,273 médicos con licencia regular, o sea, un médico por aproximadamente 821 habitantes. En dicho estudio se considera que este número es adecuado para las necesidades de P. R. La dificultad radica en que aproximadamente el 60 por ciento de los mismos están localizados en la región Noreste. Es obvio que cualquier plan de seguro universal de salud que se implante tendrá que propender a producir una mejor distribución de médicos.

En cuanto al número de enfermeras el problema es mucho más serio habiendo en Puerto Rico en 1972 un total de 5,033 enfermeras graduadas. Según el Estudio sobre Recursos Humanos para un "cuidado mínimo seguro" se requerirían 8,525 enfermeras graduadas lo que indica que solo contamos con el 59 por ciento de enfermeras que se necesitarían. Las enfermeras están igualmente concentradas en la región noreste haciendo que la escasez de estas profesionales en el resto de la Isla sea de serias proporciones. Como hay un número considerable de enfermeras en la práctica privada es obvio que *la CSSU tendrá que recomendar medidas no solo para mejorar la distribución de enfermeras, sino para aumentar el número de las mismas.* Este déficit de enfermeras debe preocuparnos al proponerse cualquier plan de seguro universal de salud ya que es imposible prestar servicios adecuados si no se cuenta con un número suficiente de enfermeras para ello.

Nos preocupa enormemente el propósito de integrar todos los servicios de salud en Puerto Rico en un solo sistema administrado por una agencia gubernamental. Consideramos que sería un paso equivocado por las siguientes razones:

1) Conlleva la desaparición de organizaciones tales como la Cruz Azul, SSS, el plan de Servicios Médicos de la Asociación de Maestros de Puerto Rico, el plan del Auxilio Mutuo y otras organizaciones voluntarias de servicios de salud cuya competencia para rendir servicios de salud ya se conoce y las que ya han hecho y continúan haciendo un considerable aporte al mejoramiento de la salud de nuestro pueblo. Eliminar todas estas organizaciones existentes y prohibir, como se intenta hacer, que ninguna organización que no sea el Plan de Seguro Universal de Salud puede ofrecer estos servicios frustra la oportunidad que por iniciativa privada surjan nuevos e innovadores conceptos para mejorar la salud de nuestro pueblo y nos convierta en una sociedad paternalista de total dependencia en el gobierno para el cuidado de su salud.

Entendemos que la más apropiada misión de un gobierno es fiscalizar y velar porque se presten buenos servicios de salud y ayudar a aquellos con escasos recursos para que puedan proveerse de los mismos. Creemos muy arriesgado la creación

de un sistema único cuando su eficiencia y viabilidad no han sido demostradas ni son fácilmente demostrables.

2) Se crearía una burocracia gigante. Esa agencia gubernamental tendría que operar la industria más grande de Puerto Rico. Atendería 3,000,000 de clientes y manejaría un presupuesto de sobre \$700,000,000 anuales, lo que constituye una suma equivalente a más de la mitad del presupuesto de Puerto Rico. Visualizamos lentitud y obstáculos en los trámites y funcionamiento interno de dicha agencia con el consecuente impacto adverso en los servicios a prestarse a todos los puertorriqueños. Libre del acicate de la competencia, esta agencia contendría en su ser el germen del deterioro y la falta de estímulo para mejoramiento que inevitablemente tienen todos los monopolios. La tendencia al anquilosamiento de los monopolios la hemos visto en todos los ámbitos del quehacer humano.

3) Dudamos seriamente que la agencia que se propone pueda manejar eficazmente todos los servicios de salud de todos los puertorriqueños. Los problemas de años recientes del Centro Médico de Puerto Rico, tanto operacionales como económicos, sugieren lo que podría ocurrir en mayor escala.

El campo de la administración de servicios de salud en grande escala no está desarrollado en Puerto Rico al grado que lo requerirá la organización que la CSSU pretende crear. Consideramos que es pertinente notar que luego de más de 10 años de operación la institución de servicios de salud más compleja de Puerto Rico, la Corporación de Servicios de Salud de Puerto Rico (Centro Médico) no ha logrado desarrollar e implantar en forma óptima los aspectos gerenciales de su operación, tales como determinación de costos unitarios, facturación, distribución de costos entre las unidades participantes y otras facetas operacionales.

4) El establecimiento de una sola agencia gubernamental para la administración de todos los servicios de salud del país pondría éstos vulnerables a una total paralización en caso de surgir cualquier problema de índole obrero-patronal con su personal como ocurrió en el caso de la ACAA recientemente. Afortunadamente, en dicho caso solo quedaron afectados una parte de los servicios de salud. En cambio, de paralizarse la agencia que se propone crear se afectarían todos los servicios ya que esta agencia manejaría todas las fuentes de ingresos de los proveedores de servicios. Podría darse el caso de prolongarse el conflicto como ocurrió en el caso de la ACAA, que por falta de recibir sus pagos a tiempo los hospitales no dispusieron de fondos para pagar a sus empleados.

5) Poner el control de la prestación de todos los servicios de salud exclusivamente en manos de una agencia gubernamental los haría potencialmente vulnerables a los vaivenes y consideraciones de la política partidista.

En vista de los puntos levantados en este informe, el Comité Médico Asesor de la CSSU considera que algunos de los principios y fundamentos de la Política General para un plan de seguro universal de salud adoptados por la CSSU resultarían perjudiciales a los servicios de salud y al bienestar de todos los puertorriqueños.

Cree el Comité Asesor Médico, por lo tanto, que es su ineludible obligación exponer lo que entiende deben ser los principios fundamentales que rijan la política general de un seguro universal de salud, lo cual hace a continuación:

POLITICA GENERAL

EL DERECHO A LA SALUD

Entendemos que es un compromiso del pueblo de Puerto Rico que la Asamblea Legislativa declare y reconozca que bajo la Sección 19 del artículo II (Carta de Derechos) de la Constitución del Estado Libre Asociado de Puerto Rico, el Derecho a la Salud es un derecho perteneciente al pueblo en una democracia. Este derecho se define así:

La salud es un estado de completo bienestar físico, mental y social y no meramente la ausencia de afecciones o enfermedades. Toda persona tiene derecho a disfrutar del grado máximo de salud que se pueda lograr sin distinción de raza, color, sexo, nacimiento, condición económica o social, ni ideas políticas o religiosas. Toda persona tiene derecho a los servicios de salud que la mantengan sana, la curen cuando se enferme y la rehabiliten al máximo de su potencial. El pueblo y el gobierno de Puerto Rico se esforzarán por defender, fortalecer, ampliar, modificar y crear las estructuras, las instituciones, y los medios necesarios que aseguren el pleno disfrute del derecho aquí consignado.

Dadas las limitaciones en la organización y el financiamiento de nuestros recursos, el derecho a la salud no podrá garantizarse en toda su extensión inmediatamente. No obstante, medidas dirigidas hacia una reestructuración y una mejor utilización de los recursos económicos y humanos disponibles deberán implementarse en el plazo más corto posible. Estas medidas estarán complementadas por la creación de los recursos adicionales requeridos para lograr el ejercicio pleno del derecho a la salud.

LA RESPONSABILIDAD DE LOS CIUDADANOS

El derecho a la salud, como todo derecho, conlleva obligaciones de parte de todos los ciudadanos.

Ningún Seguro Universal de Salud puede garantizar el que todos podamos gozar a plenitud de una buena salud. El poder gozar de una buena salud no depende exclusivamente de un Seguro Universal de Salud que ayude a garantizar la accesibilidad a dichos servicios de salud, sino que hay otros factores importantes fuera del ámbito de dicho Seguro con los cuales el estado tendrá que bregar, tales como ingresos, empleos, vivienda, nutrición, contaminación ambiental, educación y muchos otros. Además, ningún Seguro Universal de Salud podrá llevar a cabo su cometido sin una participación responsable y bien informada de todos los ciudadanos incluyendo la *aportación económica necesaria de acuerdo a sus medios*. Esto plantea la necesidad de un intenso programa de orientación y educación a todos los ciudadanos sobre el programa de Seguro Universal de Salud de manera que exista una adecuada relación entre las necesidades y la capacidad real de ofrecer estos servicios en todo Puerto Rico.

Solo así obtendremos como pueblo y sociedad, un estado responsable, una práctica médica responsable, y una ciudadanía responsable, con respecto a la disponibilidad y uso de la mejor medicina obtenible en el mundo moderno.

CAMBIOS ADAPTABLES A LA REALIDAD PUERTORRIQUEÑA

Nuestro sistema de gobierno es uno democrático. Cualquier cambio que se sugiera debe estar enmarcado en dicha filosofía fundamental acorde con aquellos patrones que han estado funcionando adecuadamente en nuestra sociedad. Nuestros

conceptos democráticos implican no ser discriminatorios con ningún grupo en especial, ni con nuestro pueblo en general.

Estamos viviendo en una sociedad donde ocurren cambios de un modo acelerado. El resultado de éstos no es de fácil predicción. Todo cambio está basado en una hipótesis y toda hipótesis debe ser comprobada antes de usarse como base operacional en gran escala. En la política general del Seguro Universal de Salud, que propone este Comité Asesor, se reconoce la necesidad de un cambio en la prestación de servicios de salud, pero *un cambio ordenado y gradual* que nos permita hacer las correcciones necesarias en la trayectoria hacia el objetivo deseado. La prudencia dicta que en dicho cambio se cuente con las estructuras existentes cuyo funcionamiento se conoce. No se deben adoptar cambios filosóficos y operacionales que puedan resultar inoperantes.

Cambios parecidos a los que se proponen por la CSSU han ocurrido en otros países en el transcurso de 10, 20, 30 años o más; aquí probablemente se puedan llevar a cabo en menos años haciendo uso de nuestras experiencias y las de otros de una manera ordenada, lógica, comprensible y asimilable.

PRINCIPIOS FUNDAMENTALES DEL SEGURO UNIVERSAL DE SALUD

Para lograr nuestras aspiraciones de pueblo en el campo de la salud y enfrentarnos al reto de lograr el pleno disfrute del derecho a la salud se recomienda que se establezca en Puerto Rico un Seguro Universal de Salud basado en los siguientes principios fundamentales: universalidad, integración, equidad, accesibilidad, calidad, continuidad, libre selección de los servicios de salud, eficiencia del sistema, participación de los consumidores y proveedores y operación en base a los principios democráticos de nuestra sociedad.

Estos principios servirán de pautas a la política pública fundamentales en la planificación y administración del seguro. Además, ellos dan forma sustantiva a las recomendaciones.

Un seguro comprometido cabalmente con estos principios es la forma más efectiva de lograr nuestra aspiración de proveerles a todos los puertorriqueños los servicios de salud que necesitan.

1. UNIVERSALIDAD:

Universalidad significa que todos los residentes de Puerto Rico tendrán derecho a recibir por igual los servicios de salud del Seguro Universal de Salud.

2. INTEGRACION DE LOS SERVICIOS DE SALUD:

El Seguro Universal de Salud proveerá servicios integrales de salud en todos los niveles. Servicios Integrales de Salud significa que el Seguro incluirá servicios de salud preventivos, diagnósticos, curativos y de rehabilitación adecuados a las necesidades de los residentes de Puerto Rico. El Seguro incluirá todos los niveles de servicios: primarios, secundarios y terciarios.

3. EQUIDAD (Igualdad de Derecho)

Todo residente de Puerto Rico tendrá igual derecho a recibir servicios de salud: no podrá establecerse discriminación alguno por razones de raza, color, sexo, nacimiento, condición económica o social, ni ideas políticas o religiosas.

La condición de salud de la persona será el factor determinan-

te de la prestación de los servicios. La condición y las necesidades de salud del país determinarán su distribución basado en nuestro sistema de vida democrático.

4. ACCESIBILIDAD

Se entiende por accesibilidad que ninguna persona se verá privada de recibir los servicios de Seguro Universal de Salud debido a impedimentos geográficos, económicos, nivel educativo o a la falta de recursos físicos o humanos, por cuanto el estado tratará de proveer los elementos necesarios para salvar estas barreras.

La igualdad de derecho a recibir servicios integrales de salud de acuerdo a la condición de salud y el principio de accesibilidad exigen una mejor distribución de los recursos humanos, financieros y físicos disponibles. Mediante la adopción de medidas democráticas y la creación de los incentivos correspondientes, es necesario lograr una redistribución de nuestros recursos que responda a las necesidades de salud de la población basada en una planificación adecuada.

Para salvar la barrera geográfica se regionalizarán las facilidades y servicios de salud y se establecerá un sistema para atender el serio problema de las emergencias.

a) *Regionalización:* La regionalización conlleva establecer una red de facilidades y servicios de salud así como jerarquizar éstas de acuerdo a su nivel de complejidad y a la población que sirven: asignar las tareas de forma eficiente y eficaz y propiciar un flujo de pacientes en ambas direcciones, de manera que se atiendan en el momento y lugar adecuados.

b) *Sistema para Emergencias:* El sistema de emergencias tiene una de las primeras prioridades porque es un instrumento esencial para hacer accesibles los servicios de salud en situaciones imprevistas y críticas. Dicho sistema incluirá tanto facilidades físicas como facilidades de transportación y comunicación para brindarles a todos los enfermos que lo necesiten, aún a los que viven en zonas más distantes, la oportunidad de recibir los servicios rápidamente y trasladarlos desde lugares apartados hasta centros de servicios de salud si fuese necesario.

c) *Accesibilidad Económica:* Por accesibilidad económica se entiende que ninguna persona se verá impedida de recibir servicios de salud por no contar con recursos para pagar por ellos. Para implementar este principio y eliminar los impedimentos económicos que obstaculizan el acceso a los servicios de salud satisfactorios, el Seguro Universal de Salud contará con unos métodos de financiamiento indirecto que reduzcan a un mínimo el que la persona tenga que desembolsar dinero en el momento en que utilice el servicio.

d) *La Provisión de Recursos Humanos y Físicos:* La accesibilidad exige que los servicios se suplan en cantidades suficientes de acuerdo a las necesidades que para ellos existan. Por lo tanto, no pueden lograrse si no se cuenta con los recursos humanos y físicos necesarios.

Se planificará para lograr una distribución más efectiva de los recursos humanos disponibles. Se tomarán las medidas necesarias para dotar al país de la cantidad de recursos humanos necesarios adecuadamente adiestrados y en el menor lapso de tiempo posible.

e) *Las instituciones educativas que adiestran al personal médico y a los otros profesionales de salud* responderán a las necesidades de Puerto Rico sin perder el sentido universalista en la formación de los profesionales de las ciencias de la salud. Además, se proveerá en el sistema educativo para la educación

continúa del personal, para facilitar la conversión del personal existente para servir en las categorías operacionales que surgen como resultado de la acelerada expansión del conocimiento y para promover el uso por el profesional de cambios tecnológicos, incluyendo nuevos tipos de organización de la práctica, que aumenten la productividad y eficacia del Seguro Universal de Salud.

f) *Las facilidades físicas* disponibles inicialmente se acondicionarán de manera que cumplan con las normas mínimas de calidad reconocidas. Se iniciará un programa de mantenimiento continuo de facilidades y equipo para eliminar la tendencia registrada en Puerto Rico, donde los gastos de mantenimiento no guardan proporción con los gastos de construcción.

Se establecerán controles sobre la construcción de nuevas facilidades y la adquisición de equipo, de manera que se suplan en cantidades adecuadas, se ubiquen o se reubiquen, se diseñen y ofrezcan los servicios en el lugar que se requieren para cumplir con las necesidades de nuestra población.

5. CALIDAD

El Seguro Universal de Salud proveerá servicios de salud de una sola calidad. Esta puede definirse como la excelencia de todos los medios disponibles para mantener saludable a una persona, curarla y rehabilitarla. Los servicios de salud de calidad son aquellos que, mediante la implantación de los conocimientos y técnicas modernas logran para la persona el efecto más deseable. La calidad desde luego debe medirse a tono con los valores humanos y las exigencias sociales y las limitaciones económicas de los puertorriqueños.

Ocurre invariablemente que la implantación de un seguro universal de salud conlleva un aumento en la demanda por servicio. Sin embargo, existen recursos de índole educativa y administrativa sobre la utilización de estos servicios que podrían reducir esa tendencia. En todo caso, una buena organización de los servicios permite la utilización más racional de éstos y constituye por tanto, un factor que disminuye el deterioro de los servicios que se prestan.

Frecuentemente es muy difícil para un paciente juzgar la calidad de los servicios que recibe. Por lo tanto, debe implantarse en Puerto Rico un programa de control de calidad adecuado a nuestras necesidades y valores.

Varios factores deberán estar presentes para obtener servicios de la calidad descrita anteriormente dentro del Seguro Universal de Salud:

a) *Programa de Control de Calidad:* Para mantener el nivel de calidad deseado, el Seguro Universal de Salud establecerá un programa de control de calidad. Este programa supervisará y controlará la utilización, el costo y la calidad de todos los servicios de salud y asegurará que todos los servicios ofrecidos por el personal profesional y administrativo sean de la calidad definida por dicho seguro. El programa de control de calidad dará participación a todos los proveedores de servicios, a los consumidores, así como al personal del seguro. Los distintos profesionales que participan en el seguro serán responsables de establecer normas de calidad que regirán los servicios a prestarse dentro de sus áreas de competencia profesional. Así también ayudarán a velar porque dichas normas se cumplan. La participación de los consumidores en todos los aspectos de este programa será explícita por materias y por niveles a tenor con el principio de participación.

Una vez establecidos los criterios de calidad y provistos

los recursos necesarios para cumplirlos, toda desviación de éstos tendrá que justificarse por el profesional o la institución envuelta. No adherirse a estas normas conllevará medidas disciplinarias que podrán incluir hasta la suspensión de privilegios y de participar en el programa del Seguro Universal de Salud. Sólo aquellos servicios que se presten dentro de las normas de calidad establecidas y aceptadas serán remunerados por el Seguro.

b) *Competencia Profesional:* El personal de Salud deberá estar dotado de la más alta competencia profesional. Sus servicios deben basarse en los conocimientos científicos y técnicas modernas disponibles, utilizando el equipo y materiales adecuados para satisfacer las necesidades de los pacientes.

A esos fines la educación continuada del personal de salud es tan esencial al mantenimiento de la competencia profesional como la preparación académica original lo es para calificarlo como tal inicialmente.

c) *Servicios de Salud Preventivos:* Se hará énfasis en las medidas conocidas para la prevención de enfermedades, de sus complicaciones y del sufrimiento que éstas acarrearán. Los servicios ofrecidos se orientarán a lograr el diagnóstico precoz y el tratamiento temprano de las enfermedades, atender con humanidad a las personas que estén sufriendo en alguna forma las manifestaciones de las distintas enfermedades y rehabilitar a los incapacitados para que puedan incorporarse activamente a la sociedad.

d) *Entendimiento y Aceptación por el Paciente:* Los buenos servicios de salud deben tratar que el paciente entienda y acepte las normas de prevención y tratamiento que han sido definidas, probadas y aceptadas objetivamente y universalmente por las profesiones. Si el paciente no entiende lo que es calidad o no acepta sus normas, la calidad no podrá lograrse. La cooperación del individuo y su aceptación de los servicios de salud son claves para lograr servicios de la calidad deseada. El paciente no puede cooperar efectivamente si no se le da la oportunidad y el incentivo para entender el proceso y lo que el proceso espera de él.

A toda persona que ha de recibir los servicios del Seguro Universal de Salud deberá proveérsele los conocimientos necesarios para que reconozca las normas mínimas y aspire a las óptimas, y para que se le estimule a que coopere de tal modo que él reciba y acepte única y exclusivamente los servicios de calidad y para que utilice dichos servicios juiciosamente.

6. CONTINUIDAD

Los servicios de salud del Seguro Universal de Salud no solo serán accesibles y de buena calidad, sino también tendrán continuidad.

a) *Servicios Enfocados en la Persona:* La continuidad significa que los beneficiarios del Seguro Universal de Salud mantendrán una relación ininterrumpida con los proveedores de servicios de salud, quienes actuarán como el eje central de los servicios que dichos beneficiarios puedan necesitar a través del tiempo. La continuidad encierra tanto un interés en el individuo como un ser humano dentro del contexto de su familia y su comunidad, así como una orientación hacia la promoción y mantenimiento de su salud en total en todo momento. Se tratará a la persona en su totalidad y no como una colección fragmentada de células, órganos y sistemas fisiológicos, lo cual no implica la sub-utilización de especialistas, sino por el contrario, su utilización más eficaz.

b) *Punto Definido de Entrada al Sistema:* Para que todo residente tenga acceso continuo a servicios de buena calidad, cuando los necesite, deberá tener un punto definido de entrada. El Seguro Universal de Salud proveerá para que dicho punto de entrada usualmente sea a través del médico primario. Servicios especializados estarán disponibles mediante referidos de acuerdo a las necesidades de salud de la persona.

c) *Médico Primario:* El médico primario será la fuente central del cuidado médico general dentro del Seguro Universal de Salud. El mismo puede ser un médico general o especialista en medicina de familia, medicina interna, pediatría o cualquier otro especialista que esté dispuesto a asumir la función del cuidado integral del paciente. El que un especialista se comprometa con el plan de Seguro Universal de Salud para actuar como médico primario, no lo excluye de prestar sus servicios especializados a nivel secundario o terciario.

El médico primario es la médula del equipo de la salud en que se fundamentan los servicios que ofrecerá el Seguro Universal de Salud.

La educación y la práctica de la medicina en Puerto Rico deben de estar orientadas hacia la formación de médicos y otros profesionales de las ciencias de la salud comprometidos con el concepto fundamental de la medicina integral.

d) *Trabajo en Equipo:* El Seguro Universal de Salud estimulará el trabajo en grupo y equipo por entender que encierra un gran potencial para mejorar la cantidad y la calidad, así como la continuidad de los servicios mediante el uso efectivo de las distintas disciplinas. El que el médico primario sea la fuente central de los servicios de salud lo constituye en coordinador de un equipo balanceado de especialistas, dentistas, enfermeras, tecnólogos y otros profesionales que le presten servicios a los pacientes.

7. LIBRE SELECCION DE SERVICIOS

El paciente podrá escoger su médico privado quien será el que lo refiera al especialista cuando esto sea necesario y el paciente escogerá el especialista de su preferencia.

También podrá el paciente, junto con su médico, escoger las facilidades más adecuadas para ser atendido.

8. EFICIENCIA

El principio de eficiencia exige que se maximice el rendimiento de los recursos humanos, físicos y monetarios para obtener el nivel de servicios de salud deseado. También será necesario el fiscalizar los procesos administrativos y gerenciales y evitar la burocratización. Para lograr estos objetivos se necesitan reformas e innovaciones.

Las metas de eficiencia y calidad así como todos los otros objetivos, exigen tener acceso a estadísticas e información confiable sobre las necesidades presentes, de tal manera que éstas puedan ser satisfechas y se pueda, además, hacer proyecciones sobre necesidades futuras de los servicios de salud. Por lo tanto, una de las primeras prioridades será establecer un sistema de información.

El sistema de información recopilará datos demográficos, sus tendencias, las características sociales y económicas de la población, las tendencias observadas en el campo de la salud, sus problemas, las necesidades del cuidado médico y la utilización y pago de los servicios. Este sistema será un instrumento esencial para analizar y evaluar las prácticas y patrones de utilización y así poder planificar efectivamente los servicios de

salud.

El sistema de información también proveerá los datos básicos que permitan analizar y enjuiciar la efectividad de los servicios ofrecidos, entendiéndose que la eficacia es parte integral del concepto de eficiencia.

Los mecanismos de información serán un instrumento indispensable para hacer viable los programas de auditoría interna y externa que evalúen continuamente el funcionamiento, tanto del conjunto como de todos sus componentes, para medir sus logros, mantener los costos al mínimo necesario y exigir el cumplimiento responsable de las obligaciones de todos los participantes.

Además, el sistema de información será un elemento principal del programa de control de calidad que se creará. Para mantener el nivel de calidad deseado, el sistema de información estará basado en un récord médico completo de cada beneficiario del Seguro, con facilidades para ser referido a los distintos niveles de prestación de servicios.

En adición, se implantarán incentivos positivos que propicien una mejor utilización de los recursos y desalienten los procedimientos innecesarios, la mala utilización del personal y facilidades, la duplicación de esfuerzos y estructuras redundantes.

9. PARTICIPACION

La participación de los consumidores, así como la de los proveedores en la administración de los servicios de salud, es un elemento esencial del derecho a la salud. El pleno disfrute de ese derecho solo puede lograrse con una participación activa y militante, en forma consciente y positiva, de todos los ciudadanos. Con dicha participación se logra, además, perfeccionar la práctica de la democracia en este aspecto fundamental de nuestra sociedad.

El Seguro Universal de Salud dará derecho a participación a los consumidores y a los proveedores de servicios de salud. Esta participación será explícita en la toma de decisiones de orden organizativo, administrativo y directivo, así como en la planificación y evaluación de los servicios y en el desarrollo de su política pública.

Todos los servicios que provea el seguro se regirán por normas democráticamente establecidas que se aplicarán, tanto a los consumidores, como a los proveedores y a las estructuras administrativas que formen parte del Seguro Universal de Salud. Por ende, participarán en su adopción representantes de todos los sectores.

10. OPERACION DEL SEGURO UNIVERSAL DE SALUD

La solución de un problema social de la complejidad y magnitud como es el disfrute del Derecho a la Salud exige soluciones colectivas en que medie la acción concertada de toda la comunidad puertorriqueña. El instrumento más indicado para tales fines es un Seguro Universal de Salud que reforme, planifique y coordine los servicios de salud en todos los niveles.

La operación de dicho seguro requiere una estructura organizacional adecuada.

Dicho plan se financiará mediante fondos obtenidos de varias fuentes, incluyendo contribuciones de tipo de seguro social, fondos generales del gobierno, participación patronal y otras fuentes que puedan canalizarse para estos fines.

El plan del Seguro Universal de Salud proveerá la más amplia cobertura al más bajo costo, reducirá a un mínimo los males de la burocratización y establecerá el medio racional para el eficien-

te financiamiento de los servicios de salud.

La estructura organizacional que se diseñe para administrar el Plan de Seguro Universal de Salud incluirá:

1) La coordinación de las diferentes formas de prestación de servicios de salud existentes en Puerto Rico buscando una mayor eficiencia y evitando la duplicación de esfuerzos.

2) La utilización como intermediarios de organizaciones de reconocida eficiencia en el campo de la administración de seguros de salud siguiendo el patrón establecido ya en el Plan Medicare. Esto se hace con el propósito de evitar los males de una mayor burocratización.

3) La planificación para lograr una mejor distribución de los recursos humanos disponibles a base de incentivos adecuados y no a base de métodos compulsorios.

4) El no obligar a ningún consumidor a recibir servicios de algún profesional u hospital en particular mientras se mantenga dentro de los niveles de servicios establecidos por el Plan.

5) El mantener separadamente identificados en forma precisa los recursos, servicios y costos de naturaleza hospitalaria de los de índole profesional.

6) La preservación del derecho del consumidor de optar por recibir servicios de médicos u hospitales no participantes. En tal caso él tendrá derecho a recibir reembolso de una parte razonable de la tarifa establecida por el Plan de Seguro Universal de Salud para dichos servicios.

7) La preservación, además del derecho del consumidor de acogerse a cualquier otro plan de seguro médico en adición al Plan de Seguro Universal de Salud.

En cuanto a la encomienda de hacer recomendaciones a la CSSU sobre los pagos a los médicos participantes en un Plan de Seguro Universal de Salud, el Comité Asesor quiere hacer la siguiente expresión:

Compensación a Médicos Participantes

El Comité Médico Asesor no recibió información alguna sobre los recursos económicos disponibles para establecer un Seguro Universal de Salud. No obstante, es la opinión del Comité, que deben utilizarse varias formas de pago a los médicos participantes.

De éstas existen varias, a saber:

- 1) Pago por servicios ("fee for services")
- 2) Pago por caso ("case payment")
- 3) Salario
- 4) Pago por sesiones
- 5) Capitación

Cada una de estas formas tiene sus ventajas y desventajas. Ninguna de ellas es de por sí la mejor, ni elimina los posibles problemas del mal uso o sobreutilización de parte de los proveedores y/o los consumidores. Deberán establecerse controles adecuados para que se reduzcan a un mínimo estos males.

El Seguro Universal de Salud deberá proveer una gama de las distintas formas de retribución arriba expuestas. El médico debe poder seleccionar el método que mejor se ajuste a su práctica. Dicho método será reevaluado periódicamente para reajustes de acuerdo al costo de la vida. Los médicos que opten por trabajar exclusivamente en instituciones médicas deberán tener beneficios marginales adecuados que estimulen la labor institucional.

MISION DE SEGURO DE SALUD UNIVERSAL SOBRE EL PLAN DE SEGURO UNIVERSAL DE SALUD

Sometido por:

1. José Ramírez Rivera, MD
2. José S. Licha, MD
3. Mario R. García Palmieri, MD
4. A. S. Casanova Díaz, MD
5. Guillermo Picó, MD
6. Norman Maldonado, MD
7. Víctor M. Pagán, MD
8. Ramón Isales
9. José M. Torres, MD
10. Egidio S. Colón Rivera, MD
11. Carlos E. Girod, MD
12. Eugenio Fernández Cerra, MD
13. Elí A. Ramírez, MD
14. Amaury Capella, MD
15. Lino Feliciano, MD;
16. Angel Rodríguez, MD
17. Héctor A. Feliciano, MD
18. Luis Torres Oliver, MD
19. Adán Nigaglioni, MD
20. Héctor Rodríguez, MD
21. Rafael Burgos Calderón, MD *
22. Roque C. Nido, MD

* Ver Voto Explicativo

ANEXO 1

Lista de reuniones del Comité Médico Asesor (en pleno)

DIA	FECHA	HORA
sábado	16 de febrero de 1974	9:00 a 12:00 A.M.
sábado	16 de febrero de 1974	1:00 a 5:00 P.M.
domingo	3 de marzo de 1974	9:00 a 12:00 A.M.
sábado	9 de marzo de 1974	1:00 a 5:00 P.M.
sábado	16 de marzo de 1974	1:00 a 5:00 P.M.
jueves	21 de marzo de 1974	7:00 a 11:00 P.M.
sábado	30 de marzo de 1974	1:00 a 5:00 P.M.
sábado	6 de abril de 1974	1:00 a 5:00 P.M.
martes	16 de abril de 1974	9:00 a 12:00 A.M.
martes	16 de abril de 1974	1:00 a 5:00 P.M.
sábado	20 de abril de 1974	1:00 a 5:00 P.M.
sábado	27 de abril de 1974	9:00 a 12:00 A.M.
sábado	27 de abril de 1974	1:00 a 5:00 P.M.
domingo	28 de abril de 1974	9:00 a 12:00 A.M.
domingo	28 de abril de 1974	1:00 a 10:00 P.M.
domingo	5 de mayo de 1974	9:00 a 12:00 A.M.
domingo	5 de mayo de 1974	1:00 a 5:00 P.M.

ANEXO 2

*ESPERANZA DE VIDA EN PUERTO RICO Y OTROS PAISES**

1970

Suecia	74.2
Noruega	73.5
Dinamarca	73.2
Puerto Rico	71.97

Canada	71.9
Inglaterra	71.8
Francia	71.5
Suiza	71.4
Nueva Zelandia	71.1
Estados Unidos	70.8
Argentina	67.2
Venezuela	63.8
México	62.4
Brazil	60.7

* *Demographic Year Book: United Nations - 1971*

ANEXO 3

VOTO EXPLICATIVO DEL DR. RAFAEL BURGOS CALDERON

Estoy endosando el documento preparado por el Comité Médico Asesor de la Comisión de Seguro de Salud Universal. Sin embargo, quiero aclarar algunos conceptos:

- 1) Regionalización - Entiendo que todas las facilidades físicas y servicios de salud tanto privados como públicos deberían estar integradas para una mejor utilización de las mismas.
- 2) Respaldo el concepto de seguridad social expresado por la CSSU, aunque creo que este concepto debe ser más abarcador y debe aspirar a proteger al individuo de todos los males sociales que gravitan sobre nuestra sociedad. Este concepto debe estar definido dentro de un plan de seguro universal de salud.
- 3) Por último, tengo mis serias dudas si en este momento histórico en que vivimos, donde la fuerza laboral está adquiriendo un inmenso poder deberíamos integrar todos los servicios de salud en Puerto Rico en un solo sistema.

Creo que debemos estudiar ambos documentos preparados por la CSSU y el Comité Médico Asesor y que de allí surja lo que más le convenga a Puerto Rico.

Rafael Burgos Calderón, M.D.

COMITE MEDICO ASESOR -CSSU

MEMORANDO A: Los Miembros del Comité

DE: Mario R. García Palmieri, MD, Presidente del Comité

ASUNTO: DOCUMENTO SOMETIDO POR CINCO COMPAÑEROS

FECHA: 16 de mayo de 1974

En el día de hoy he recibido un documento con fecha del 14 de mayo de 1974 preparado por los compañeros Drs. Alma Cajigas, Justino Del Valle, José L. Galarza, Aida Guzmán y Raúl Marcial Rojas, acompañado de una carta de trámite de la misma fecha.

Según solicitado por ellos, he procedido a enviar dicho documento al Dr. Juan B. Aponte con copia a los comisionados Dr. Juan Colón Pagán y Sr. Jesús Rodríguez.

Le incluyo copia del documento y de la carta de trámite para su conocimiento.

MRGP/rbre

Anexo

16 de mayo de 1974

Dr. Juan B. Aponte, Presidente
Comisión de Seguro de Salud Universal
Apartado GG
Caparra Heights Station
San Juan, Puerto Rico

Estimado doctor Aponte:

Le incluyo copia de un documento enviado por los doctores Alma Cajigas, Justino del Valle, José L. Galarza, Aida Guzmán y Raúl Marcial Rojas con fecha del 14 de mayo, el cual fue recibido por este servidor en el día de hoy. Le incluyo, además, la carta de trámite que acompaña al documento.

Sin otro particular, quedo de usted

Cordialmente,
Mario R. García Palmieri, MD
Presidente del Comité

cc: Dr. Juan Colón-Pagán
Sr. Jesús Rodríguez

Anexos

14 de mayo de 1974

Dr. Mario R. García Palmieri
Presidente Comité Médico Asesor
Comisión Sobre Seguro de Salud Universal
Apartado GG, Caparra Heights Station
San Juan, Puerto Rico 00922

Estimado doctor García Palmieri:

Le incluimos una opinión disidente de un grupo de miembros del Comité Médico Asesor de la Comisión Sobre Seguro de Salud Universal.

Agradeceremos haga llegar a la Comisión este documento a la mayor brevedad posible.

Cordialmente,
Grupo de Miembros del Comité
Médico Asesor de la Comisión Sobre
Seguro de Salud Universal

14 de mayo de 1974

OPINION DISIDENTE DE UN GRUPO DE MIEMBROS DEL

COMITE MEDICO ASESOR DE LA COMISION SOBRE SEGURO DE SALUD UNIVERSAL:

Nosotros los abajo firmantes, miembros del Comité Médico Asesor de la Comisión Sobre Seguro de Salud Universal, respetuosamente expresamos una opinión disidente en relación al informe final sometido por dicho Comité.

Este informe del Comité Médico Asesor de la Comisión Sobre Seguro de Salud Universal, que consideramos un documento valioso, representa muchas horas de estudio y discusión armoniosa entre sus miembros; no obstante expresamos nuestra opinión basados en que en dicho informe no se han incluido, o se han cambiado del documento original de Política General de la Comisión conceptos fundamentales que consideramos deben ser parte integrante de una política pública en cuanto a servicios de salud.

1. Seguro vs. Sistema

Este grupo considera un deber advertir a la comunidad puertorriqueña la diferencia entre un *Seguro* de Salud Universal y un *Sistema* de Salud Universal Integral, y expresar a la vez nuestra opinión al respecto.

Entendemos que aunque el mandato legislativo es en términos de que se cree un Seguro de Salud Universal dicho mandato debe modificarse dirigiendo su objetivo hacia el establecimiento de un Sistema de Salud Universal ya que éste provee una mayor cobertura y universalidad con métodos de financiamiento más integrados y racionales.

Recomendamos que la organización que se diseñe para administrar el sistema de Salud Universal Integral debe contener obligatoriamente los siguientes ingredientes:

- 1) La creación de un organismo central gubernamental bajo un Sistema de Seguro Social que inicialmente coordine y finalmente integre en un solo sistema todas las organizaciones voluntarias de salud con fines no pecuniarios organizadas por consumidores de salud existentes al momento de establecerse el sistema de Seguro de Salud Universal.
- 2) Esta organización financiaría únicamente aquellos servicios de salud que se presten por los proveedores participantes en el sistema.

2. Regionalización

Aunque el documento final del Comité respalda el concepto de regionalización, éste, a nuestro juicio, no ha sido adecuadamente definido. Entendemos el concepto de regionalización tal como está expresado en el documento de la Comisión de Seguro Universal de Salud donde se establece que los servicios de salud tanto primarios, secundarios y terciarios estarán regionalizados. Además, mediante la regionalización los servicios de consulta y las destrezas altamente especializadas se harán accesibles desde bases centrales a comunidades periféricas que carecen de estos recursos.

3. Accesibilidad

Diferimos en grado con el documento sometido por el Comité Médico Asesor en cuanto al concepto de accesibilidad económica. Entendemos que el método de financiamiento indirecto debe hacer innecesario y de no ser posible, reducir a un mínimo el desembolso de dinero por el paciente. Además,

el concepto de igualdad expresado en el documento original de la Comisión donde "no se permitirá a los participantes en el sistema a allegarse privilegios en la obtención o prestación de los servicios de salud mediante la competencia económica o de otra índole" fue excluido del informe final del Comité. Entendemos que dicho concepto es esencial a un Sistema de Salud Universal.

4. Punto Definido de Entrada al Sistema

En el documento del Comité Médico Asesor queda ambiguo este concepto. No concebimos que se permita la entrada al sistema directamente a través del especialista excepto aquellos definidos como Médicos Primarios. Estamos convencidos que un Seguro que permita entradas múltiples a la obtención de servicios de salud fragmenta la continuidad del cuidado al paciente, mal utiliza los recursos humanos y físicos disponibles e incrementa los costos.

5. Libre Selección de Servicios

En el Informe del Comité Médico Asesor se concibe el concepto de Libre Selección en forma absoluta. Nosotros entendemos que la libre selección de servicios se debe permitir enmarcándolo dentro del sistema de regionalización que se implemente y dependerá de las necesidades del consumidor y de las facilidades y recursos humanos disponibles en cada región.

6. Seguridad Social

Lamentamos que muchos de los conceptos de enfoque social contenidos en el documento original de la Comisión así como aquellos que apuntan a las realidades socio-económicas puertorriqueñas hayan sido en gran medida eliminados en el informe final del Comité Médico Asesor.

Estamos de acuerdo con el contenido de la Sección sobre Seguridad Social según aparece en las páginas 14-16 del documento de política general que propone la Comisión Sobre Seguro Universal de Salud.

Por lo tanto, a tenor con lo arriba expresado, los abajo firmantes respaldamos el establecimiento de un Sistema de Salud Universal para Puerto Rico.

Alma Cajigas, M. D., Directora
Servicios Médicos Auxiliares Centralizados
Corporación de Servicio del Centro Médico
de Puerto Rico

Justino del Valle, M. D., Expresidente
Asociación de Salud Pública de Puerto Rico

José L. Galarza, M. D.
Médico Servicio Público, Utuado, P. R.

Aida Guzmán, M. D., Sub-Secretaria
Departamento Servicios Contra la Adicción

Raúl Marcial Rojas, M. D.
Catedrático y Jefe, Departamento de Patología
de la Escuela de Medicina de la Universidad
de Puerto Rico

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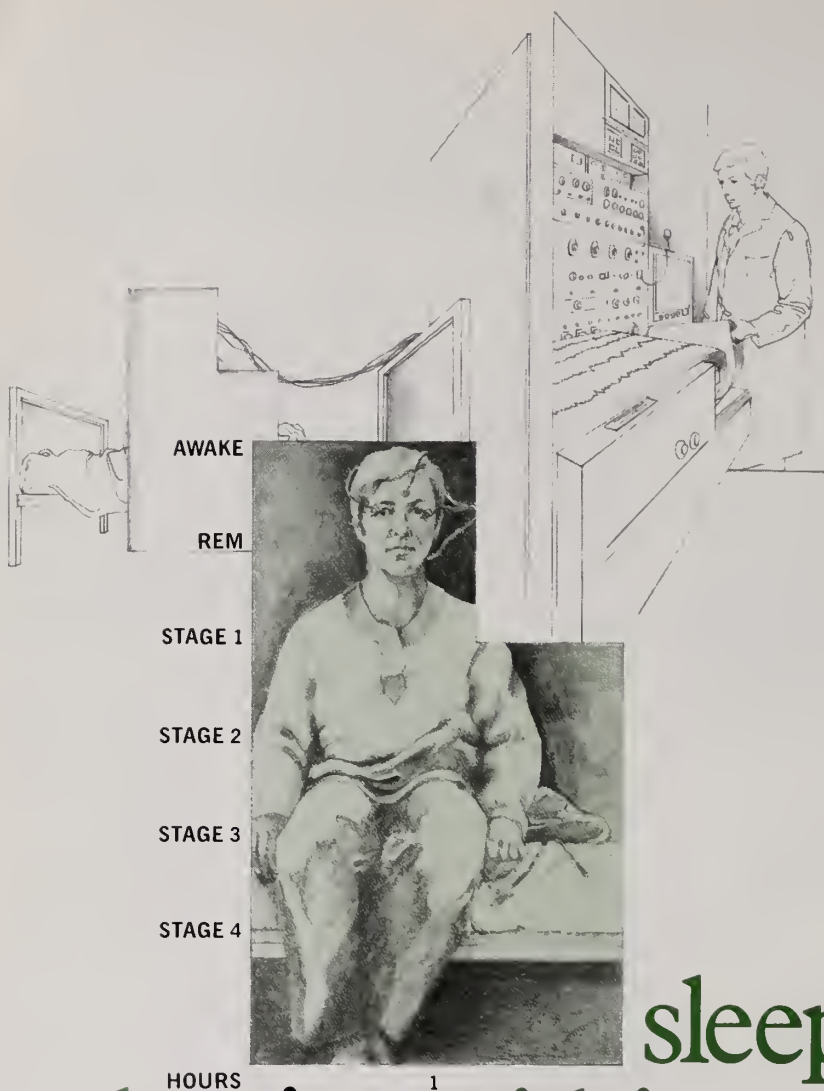
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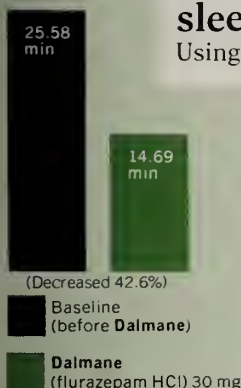


sleep
begins within
17 minutes, on average ...
an initial benefit of

Dalmane[®]
(flurazepam HCl) proved by a
22-night clinical study of insomnia patients
in the sleep research laboratory and at home¹

Three insomnia patients selected for difficulty falling asleep were administered Dalmane (flurazepam HCl) 30 mg for 14 consecutive nights. Placebo was given for four nights prior to and four nights after Dalmane. Physiologic tracings on Dalmane nights 1-3 showed sleep induction time averaged 13.90 minutes; on Dalmane nights 12-14, 18.80 minutes. Combined average for the 6 monitored drug nights was 16.35 minutes.¹

Average Time Required
to Fall Asleep (4 Studies,
16 Subjects²⁻⁵)



confirmed by clinical studies in four geographically separated sleep research laboratories²⁻⁵

Using a 14-night protocol involving eight insomniac and eight normal subjects, four studies confirmed the sleep-inducing effectiveness of Dalmane (flurazepam HCl) and the reproducibility of this response. On average, one 30-mg capsule induced sleep within 17 minutes. In all these studies, Dalmane induced sleep rapidly, reduced nighttime awakenings, and provided 7 to 8 hours of sleep without repeating dosage²⁻⁵

Dalmane (flurazepam HCl) induces and maintains sleep, with relative safety

Dalmane is generally well tolerated; morning "hang-over" has been relatively infrequent. While dizziness, drowsiness, lightheadedness and the like have been noted most often, particularly in the elderly and debilitated, physicians should be aware of the possibility of more serious reactions, as noted below.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES: 1. Kales A, et al: *Arch Gen Psychiatry* 23:226-232, Sep 1970

2. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971

3. Frost JD Jr: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

4. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

5. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

when restful sleep is indicated **Dalmane**[®] (flurazepam HCl)

One 30-mg capsule h.s. — usual adult dosage
(15 mg may suffice in some patients).

One 15-mg capsule h.s. — initial dosage for
elderly or debilitated patients.

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- sustains sleep 7 to 8 hours, on average, without repeating dosage



HOCHS LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Is there a need for a drug compendium?

A drug compendium of the type I envision would fill a definite need for the practicing physician. Such a compendium would give him all the information necessary for using a drug intelligently, and it would do so in a clear, concise, convenient, objective and balanced fashion.

What a Compendium Should Contain

I believe the compendium should inform the doctor what a drug will do, when he should use for what type of patient, for how long, in what dose, what benefits his patient is likely to obtain, the risks involved, and cross-reaction with other drugs.

The information would be based on the package insert and have the same legal status. In fact a complete compendium with complete and current information might even eliminate the necessity

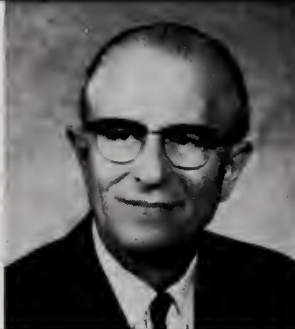
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Deputy Assistant
Secretary for Health
Department of Health,
Education and Welfare



Maker of Medicine

Joseph F. Sadusk, Jr., M.D.
Warner-Lambert Company



A drug compendium, or preferably compendia, should, I believe, be private, not federal, in sponsorship. They should contain comprehensive listings of drugs available for prescribing. They should be single, legibly printed volumes of reasonable size, updated quarterly or semiannually and completely revised every year.

Function of a Compendium

A compendium should furnish the following information on drugs in the following order: indications for use, side effects, adverse drug reactions, contraindications, drug interactions, drug dosage and the dosage forms marketed. Drug prices should not be included because they vary so widely and change rapidly.

No compendium should set forth drugs of choice or discuss relative efficacy. Such questions must be left for the practicing physician to decide, whether on the basis of the medical literature, his own clinical experience, advice of colleagues, information supplied by manufacturers, and so on.

Nor should a compendium undertake to educate the doctor on how to use drugs. Rather, it must be a reference source designed primarily to refresh his memory as to drugs he may not use regularly. It

Opinion & Dialogue

for a package insert in many instances. This would constitute a substantial saving for the manufacturer.

By a complete compendium, I do not mean a volume of prohibitive size. You don't need a book describing 25,000 products with an enormous amount of repetition. Rather, drugs should be arranged by class. Mutually applicable information would be provided, along with brief discussions pinpointing differences in specific drugs of that class. Listings would be cross-indexed in a useful way.

Other Available Documents as Sources of Information

Existing references such as PDR and the AMA Drug Evaluation are obviously useful but they are incomplete. Either they are not cross-referenced by generic name and do not group drugs with similar characteristics, or they do not list all the available and legally marketed drugs. And some of those omitted may be very useful.

should in no way imply control over the practitioner's prerogatives.

Why Another Compendium?

A practicable, single-volume compendium cannot, nor is it necessary to, include all drugs on the market today. From my practice of internal medicine for some 15 years, my experience as a consultant, and as a faculty member of four or five medical schools, I would estimate that a doctor uses only 30 to 35 drugs regularly. The 1972 Physicians' Desk Reference, incidentally, contained about 2,500 entries.

As to whether there should be a federal compendium, in my opinion, as stated earlier, the answer is easy—there should *not* be one. The proposal assumes that existing compendia are inadequate. We're not sure of that at all. Whatever its imperfections, the present drug information system in the U.S. is open, multifaceted, pluralistic and extensive. Good compendia exist, as well as other ample sources on drug therapy, ranging from journal literature through AMA Drug Evaluation to company materials. Not all physicians may use such sources as often or as well as they should, but that is the fault of the man, not of the sources.

In any event, rather than pro-

On the other hand, drugs made by more than one supplier, tetracycline for example, may be fully described a dozen times in the same book.

While perhaps PDR could be rearranged and cross-indexed with generics included, and while the AMA Drug Evaluation might also be modified and expanded, I am not sure that the end result would have all the attributes required for a useful compendium. At the same time, you would run the risk of amassing a voluminous and unwieldy tome.

Should Editorial Comments Accompany the Listings?

Subjective judgments, in my opinion, have no place in a compendium. However, if there is substantial evidence based on a sound body of science concerning relative efficacy of several drugs, certainly that information should be included. The committee of experts compiling and editing a particular section would also have to assess

duce another book, it makes much more sense to work on improving existing compendia, and perhaps they could, as knowledge advances, include more accumulated clinical data and experience, and more information on drug interactions and adverse reactions.

Implications of a Federal Compendium

Take a hard look at the implications of a federal compendium. It would have the force of law, virtually dictating what drugs to use and how to use them. In effect, it would be a regulatory document with legal or quasi-legal status, posing medical/legal problems similar to those the doctor may now encounter if and when he departs from the provisions of the package insert. A compendium under federal aegis would tend to restrict decisions on drug therapy to one orthodox level—a most dangerous trend for medicine.

New Compendium—A Medical Option

I detect no ground swell of initiative or support whatsoever for a federal compendium—or, for that matter, for a new compendium of any type. A 1969 PMA survey conducted by Opinion Research Corporation found that only 15 per

and indicate instances where a meaningful difference between drugs is pertinent.

Sponsorship, Compilation and Editing

Producing a book like this would undoubtedly be difficult and demanding. It would obviously take a great deal of talent and expertise, and would require a varied and experienced group, ranging from writers and editors to highly skilled clinicians and pharmacologists. Style, format and clarity of language would play an important part in determining the usefulness of the book. And it should be updated periodically and completely revised annually.

I have no opinion whether the government or the private sector should sponsor and/or finance the compendium. What is most important is that the compendium be an authoritative, objective and useful source of information for the doctor to have at hand as a ready reference.

cent of those physicians interviewed felt a new compendium was needed. And a large majority did not favor the involvement of the federal government if one were to be created, preferring instead a nongovernmental consortium.

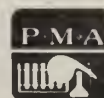
Even if we come to a time when the medical profession itself opts for a new kind of compendium, it should be handled and financed, ideally, outside both government and industry. Final review and editorial authority could be delegated, say, to specialty bodies and medical societies—but above all, *not* the government.

Surely the health care system in the United States has far more vital matters to consider than the extensive cost and effort that would have to go into the preparation and maintenance of a new, monolithic compendium, and especially one bearing the imprimatur of the federal government.

Opinion & Dialogue

What is your opinion, doctor? We would welcome your comments.

The Pharmaceutical
Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005



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- | | | |
|----|---------------------------|---------------------------------|
| 1. | <i>Baxter Labs.</i> | <i>Triflex</i> |
| 2. | <i>Burroughs Wellcome</i> | <i>Empirin Compound</i> |
| 3. | <i>Ciba Pharms.</i> | <i>Vioform</i> |
| 4. | <i>Eaton Labs.</i> | <i>Chloraseptic</i> |
| 5. | <i>Roche Labs.</i> | <i>Bactrim, Dalmane, Valium</i> |
| 6. | <i>Rorer</i> | <i>Ascriptin</i> |
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The Bactrim^{T.M.} edge

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of clinical efficacy

- in cystitis, pyelonephritis and pyelitis diagnosed as chronic
- against susceptible strains of the common urinary tract pathogens, usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species.



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

Note: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in chronic and recurrent urinary tract infections.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia in elderly patients on diuretics, primarily thiazides. Sore throat, fever, pallor or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. Data are insufficient to recommend use in infants and children under 12.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, allergy or bronchial asthma; and in those with glucose-6-phosphate dehydrogenase deficiency, where hemolysis may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus,

exfoliative dermatitis, anaphylactoid reactions, peri-orbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12.

Usual adult dosage: Two tablets b.i.d. for 10 to 14 days. For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

Supplied: Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose[®] packages of 1000; Prescription Paks of 40, available singly and in trays of 10.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Bactrim^{T.M.}

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.



Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of antibacterial activity
in cystitis, pyelonephritis and pyelitis diagnosed
as chronic and due to susceptible organisms.

Before prescribing, please consult complete product information, a summary of which appears on preceding page.

BOLETIN ASOCIACION MEDICA DE PUERTO RICO

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OCT 8 1974



Vol. 66

Julio 1974

No. 7



Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling,



and a few may need counseling
and the psychotropic action of Valium® (diazepam).

OCT 8 1974

Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

You should be aware of the possibility of side effects in some patients and should consult the complete product information before prescribing.



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Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect.

Adults: Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 100.

Valium® (diazepam)

To help you manage excessive psychic tension

BOLETIN

ASOCIACION MEDICA DE PUERTO RICO



Organo Oficial

Fundado en 1903

Volumen 66

Julio 1974

Número 7

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*CUBIERTA DEL MES DE JULIO: CALETA LAS MONJAS
(Cortesía del XI Congreso Panamericano de Gastroenterología)*

EXERCISE TRAINING AND CORONARY ARTERY DISEASE: SELECTION OF PATIENTS FOR EXERCISE TRAINING PROGRAMS (PART II)

Juan M. Aranda, MD
Benjamín Befeler, MD

In view of the beneficial effects of supervised exercise training programs reported by different authors (22-26) and considering the recommendations of the Committee on Exercise of the American Heart Association (38), it seems that regular exercise enhances the quality of life by increasing physical capability for work and is an important therapeutic tool in rehabilitating patients who have stable angina pectoris or are recovering from myocardial infarction. Although it is well known that physical training increases exercise performance in sedentary, hypokinetic, overweight men as well as in selected patients with angina pectoris or previous myocardial infarction, it should be emphasized that inappropriate exercise in poorly selected patients can be deleterious to their health and even produce sudden death. The Committee on Exercise did not consider justifiable to advocate adoption of vigorous exercise on the grounds that it will prevent heart disease, rather the exercise program should be tailored to the condition and interest of the patient.

Contraindications

Frequently physicians are consulted for recommendations and advice concerning the amount and intensity of exercise allowed to a particular patient. Before any recommendations are given, the physician should be able to provide answers to the following questions: What conditions contraindicate an increase in physical activity? , Which patients are suitable candidates for exercise training? , What specific advice can the physician give to the patient for whom an increase in physical activity seems desirable? Although the answers to some of these questions are not readily available, there is general agreement that the following conditions usually contraindicate an increase in physical activity (39):

1. Evidence of impending or recent myocardial infarction (less than 3 months).
2. Congestive heart failure
3. Active myocarditis
4. Ventricular aneurism
5. Aortic stenosis
6. Coarctation of the aorta
7. Ventricular arrhythmias
8. Slow or fixed heart rate on a graded exercise test
9. Moderate to severe cardiac enlargement
10. Pulmonary hypertension or recent pulmonary embolism
11. Moderate to severe diastolic hypertension
12. Acute infections
13. Hepatic or renal insufficiency
14. Massive obesity, central nervous system disease, brittle diabetes mellitus
15. Inadequate motivation
16. Drugs like propranolol, procainamide, or quinidine may cause a fall in cardiac output or hypotension during exercise and are relative contraindications.

The candidate for an exercise program should be thoroughly evaluated by the physician. Special emphasis should be made on the review of the family history for heart disease and the detection of risk factors for coronary artery disease, such as obesity, cigarette smoking, hypertension and hypercholesterolemia. It should be re-emphasized that among the risk factors predisposing to coronary artery disease, lack of exercise ranks behind smoking, obesity, hypertension and hyperlipemias. Thus it is illogical to recommend a reconditioning program without correcting any other associated risk factors.

The Graded Exercise Test

After the first part of the evaluation is completed and if no apparent contraindications exist for an exercise training program, a graded exercise test should be performed. Every patient with identifiable heart disease (but without contraindications for an exercise program)

From the Cardiology Section, Veterans Administration Hospital, University of Miami School of Medicine, Miami, Florida.

Address for reprints: Juan M. Aranda, MD, Cardiology Section, University of Miami School of Medicine, Miami, Florida.

and any subject over 35 with increased risk factors but without clinical evidence of heart disease should be given a graded treadmill exercise test before an exercise program is recommended (38). The latter group are considered coronary prone and a graded treadmill test may reveal early manifestations of ischemic heart disease. Although an exercise test may reveal the presence of latent ischemic heart disease in persons without increased risk factors, testing in this group of persons under the age of 35 is not likely to disclose more than one case in a hundred (38). The second objective of the test is to determine the patient's cardiovascular functional capacity. The findings and data obtained during the treadmill exercise test are important criteria used in the prescription of the reconditioning program. In our laboratory, the multistage principle of uninterrupted submaximal or near maximal work loads in a treadmill has been used in both normal, ambulatory and hospitalized cardiac patients whether physically trained or not, before and after aortocoronary bypass surgery. This involves several work loads of 3 minutes duration, increasing the speed and grade of walking until a self determined end point of limiting symptoms (angina, dyspnea, etc.) occur or until 90 percent of the predicted maximal heart rate is reached.

After the procedure is explained to the patient, he is instructed not to eat for 2 hours prior to the test. If he is receiving long acting nitrates, these are discontinued at least 24 hours prior to the test. After a resting 12 lead electrocardiogram, upright exercise on a motor driven treadmill is started at a 10 percent grade and a speed of 1 mph. Exercise is continued for three minutes at each treadmill stage according to a modified Bruce protocol: (40)

Stage 0	1.0 mph	10 percent grade
Stage 1	1.7 mph	10 percent grade
Stage II	2.5 mph	12 percent grade
Stage III	3.4 mph	14 percent grade
Stage IV	4.2 mph	16 percent grade
Stage V	5.0 mph	18 percent grade

A modified precordial lead approximating lead V₅ is continuously monitored throughout the period of exercise and recorded at 15 seconds interval for subsequent analysis. A complete electrocardiogram is obtained in the recumbent position immediately after exercise and at 2 minutes intervals for 8 minutes following exercise. The test is terminated if:

1. The patient develops angina, excessive fatigue, dyspnea, dizziness or hypotension.
2. Serious arrhythmias appear.

3. Complete bundle branch block or major intraventricular conduction defects are detected.
4. Heart rate exceeds 90 percent of the maximal predicted heart rate by 8 beats per minute.

Ideally the following parameters should be evaluated during and immediately after exercise is discontinued:

1. Maximal blood pressure - rate product/100
2. Predicted maximal oxygen consumption (41)
3. Estimated maximal oxygen consumption achieved at the peak of exercise according to the formula:
(41) Men, Max O₂ consumption = 8.38 + 2.94 (minutes of exercise) - Women, Max O₂ consumption = 8.05 + 2.74 (minutes of exercise)

The maximal O₂ consumption can also be determined directly at the peak of exercise through a gas analyzer. It should be emphasized that every graded exercise test should be directly supervised by a physician and that emergency equipment (defibrillator, oxygen, oral airways, cutdown tray, laryngoscope, etc.) and drugs (nitroglycerine tablets, aramine, adrenaline, isoproterenol, lidocaine, atropine, etc.) should always be available.

Available data reported by Rochnis (42) indicate that the risk of mortality during the 24 hours following exercise is less than 1 per 10,000 tests and the risk of nonfatal complications requiring hospitalizations is about 2.4 per 10,000 tests.

Exercise Prescription

After the above evaluation has been completed the candidates for the training program could be subdivided in 2 categories:

- a. Patients with or without manifest clinical heart disease who developed during the treadmill exercise test paroxysmal supraventricular arrhythmias, frequent ectopic ventricular beats, bundle branch block, second or third degree atrioventricular block or ST depression of 1 MM or greater. This group of patients should be carefully studied and must be initially excluded from an unsupervised exercise program. However, they could possibly be enrolled in a supervised program where a physician, supporting staff and equipment are constantly available to handle possible emergencies, provide acute care, defibrillation and cardiac resuscitation. The costs for such a program are higher and funds are required to provide the necessary personnel and equipment.
- b. Patients who completed the graded treadmill exercise test without exhibiting abnormal electrocardiographic findings and who were able to exercise up to 90 percent of the predicted maximal

heart rate for their ages. This group can be authorized to take part in an unsupervised reconditioning program once the exercise program has been prescribed. The intensity of such exercise program will not exceed that achieved during the graded treadmill exercise test. Such a program can be followed at a minimal cost to the patient. The only disadvantage is that the patient may lose interest or exercise irregularly. The possible solution to this is to have the patient enrolled in some type of organized group activities provided by civic organizations in the community.

The type, intensity, duration and frequency of exercise will depend on the patient's health, physical performance, interest in physical activities, cost and facilities available in the community. The exercise should involve a substantial and sustained increase in metabolic, cardiovascular and respiratory functions. Activities of this type include walking, hiking, jogging, running, rhythmic calisthenics, stationary bicycling, rowing and swimming. (39) Competitive athletics demanding sudden or short bursts of energy expenditure and rapid movement should be avoided initially. Isometric exercises such as weight lifting, valsava maneuvers and calisthenics stressing the lower back or knees are contraindicated and should not be considered a part of this type of program. (39, 43) These activities do not improve cardiovascular performance and may provoke an excessive, possibly dangerous pressor response. (38) The period of exercise may last 20 minutes or less. (38) Although the optimal frequency of exercise is not known, the workout period should be repeated three to five times per week. Once an adequate level of fitness is achieved, it could be maintained with less frequent sessions, (twice a week). The patient should realize that the only way to maintain the benefits derived from exercise training is to commit himself to a life long regular exercise program.

A previously sedentary subject should begin his program at a low intensity, gradually increasing the level of exertion over days or weeks. The workout period should always start with a warm up of stretching and loosening up (3 to 5 minutes) and should always end with several minutes of tapering off. Hot showers are to be avoided immediately after an exercise period. In a few cases they have been associated with immediate manifestations of myocardial infarction. (38)

The intensity and type of the prescribed exercise

program must not be arbitrarily formulated. The maximal heart rate attained during the graded treadmill exercise test and/or the maximal oxygen consumption estimated or measured at the peak of the exercise test are the most important parameters to be considered in formulating the type and intensity of the exercise program. Heart rate can be used to regulate intensity if the conditioning activity consists of isotonic exercises that are performed in the upright posture using primarily the large leg muscles; walking, stationary bicycling, running, etc. Under these circumstances, changes in heart rate are good indicators of changes in both myocardial and total body oxygen requirements.

If the graded treadmill exercise test was of the near maximal or maximal type and no contraindications were found, the patient may be prescribed an exercise program that elicits 70 - 75 percent of the maximal heart rate achieved during the treadmill exercise test. For example, if a 55-year old male completes a graded exercise test and is able to exercise up to 90 percent of his maximal heart rate corrected for age (164)*, the intensity of the prescribed exercise program will be such that at its conclusion, his heart rate has increased to 115 - 123 beats per minute or 70 - 75 percent of the maximal heart rate achieved during the exercise test. If the same 55-year old male, with stable angina pectoris, was not able to reach 90 percent of his maximal heart rate and was forced to stop the graded exercise because of angina, the heart rate at which angina developed is recorded. If no other contraindication exists and if a supervised training program is available, the intensity of the prescribed exercise program will be such that at its conclusion the peak heart rate is 20 beats per minute below the one recorded at the onset of angina during the exercise test. It should be reemphasized that a previously sedentary patient (with or without clinical heart disease) should begin his program at a low intensity gradually increasing the level of exertion until the maximal permissible intensity is reached.

The estimated or determined oxygen consumption at the peak of the graded treadmill exercise test may also be used to determine the intensity of the prescribed exercise program. If the exercise test was maximal or near maximal (the patient exercised to 90 percent of the maximal heart rate), the intensity of the reconditioning program should require 65 to

*Table 1, Exercise Testing and Training of Apparently Healthy Individuals. The Committee on Exercise, American Heart Association, New York, 1972 (38).

75 percent of the estimated or determined maximal oxygen consumption. If the exercise test was sub-maximal (the patient did not exercise until the target heart rate), the oxygen uptake at the end of exercise is the parameter to be followed in the exercise prescription. The program should consist of activities with an oxygen requirement below that reached at the termination of the graded exercise test. For example if the maximal oxygen uptake recorded during the graded treadmill exercise test was 24 ml O₂/min/Kg, the training program should include activities whose approximate oxygen cost do not exceed 65 to 75 percent of this value. The Committee on Exercise of the American Heart Association has assembled an excellent chart which gives the approximate oxygen requirements for various activities in order of increasing intensity from mild exercise to competitive sports. For example, the oxygen cost of standing at ease, walking 2.0 mph, bicycling 5 mph, gardening or dancing is 4.8, 9, 12.5 and 20 ml of oxygen per minute/Kg respectively. (38) The graded treadmill exercise protocol previously mentioned (40) can also be utilized in the reconditioning program since the oxygen cost at various treadmill grades and speeds has been determined. (38) Bicycle ergometers can also be utilized for this purpose after a period of instructions is given to the patient both in the exercise laboratory and in the patient's home. Oxygen requirements of different bicycle ergometric work loads have been reported by Fox *et al.* (44)

In conclusion it has been shown by many investigators that a rapid progressive and maintained improvement in exercise and work capacity can be induced by a reconditioning exercise training program. For a

patient who is content to live a physically inactive life, exercise training is of little benefit, however for a patient who wants to live a life of more normal physical activity without symptoms such improvement in work capacity is extremely beneficial. Although it cannot be defined at the present time if a reconditioning program slows or retards the coronary atherosclerotic process or prolongs life, it is generally accepted that if exercise training is used critically in adequately selected patients, its beneficial effects are more important than its possible harmful complications.

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*Innes, I.R., and Nickerson, M., in Goodman, L. S., and Gilman, A. (editors): The Pharmacological Basis of Therapeutics, ed. 4, New York, The Macmillan Company, 1970, p. 537.

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*Serum Potassium Level Drops During Long-Term Exercise, *Medical Tribune*, July 4, 1973.

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MYOCARDIAL INFARCTION: REPORT OF 115 CASES

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R. S. Díaz-Rivera, MD

Other than sudden death, myocardial infarction (MI) is the most dramatic manifestation of coronary heart disease (CHD). Despite the fact that CHD is the leading cause of death in Puerto Rico (1), its prevalence appears to be considerably lower than that in the U. S. mainland. In the epidemiological study of CHD being conducted by García-Palmieri and co-workers (2) in certain areas of the Northeast Region of Puerto Rico, the prevalence of CHD in males 45-54 and 55-64 years old was 77 percent and 54 percent of the respective figures of the U. S. National Health Survey. Similarly the corresponding figures for prevalence of definite MI were 26 percent and 19 percent, respectively, a more impressive discrepancy.

Perhaps less well known is the existence of a differential in cardiovascular death rates in different areas within Puerto Rico. Stanton (3) found crude death rates per 100,000 population ranging from 100 in the Western and Central Mountain Area to 153 in the combined Ponce, Mayaguez and Arecibo Metropolitan Areas. When adjusted for age and sex, the lowest rates were 94 in the San Juan Metropolitan Area, while the other three combined metropolitan areas remained the highest at 150. This was partially confirmed more recently by Rodríguez *et al* (4), who in their review of 559 cases of MI in southern Puerto Rico found a higher mortality among residents of Ponce than among patients living in other towns nearby.

To document further possible intra-island comparisons in occurrence of this disease the following experience with MI in the indigent population of San Juan is reported.

Materials and Methods

All medical admissions to the San Juan City Hospital from 1955 to 1960 were reviewed. These years were chosen because

they include a transition period when serum enzymes first began to be used routinely as an aid to diagnosis, and it seemed desirable to study whether this test would increase substantially the number of cases in whom MI was diagnosed. Only those admissions which fulfilled at least one of the following criteria were included.

1. A clinical picture compatible with the diagnosis of MI, in the presence of unquestionable changes in the electrocardiogram (EKG).

2. A clinical picture compatible with the diagnosis of MI, in the presence of elevation of serum enzymes.

3. The finding of a fresh or recent MI at autopsy.

These records were reviewed and information abstracted on special forms, with respect to seasonal occurrence, age, sex and race, family prevalence of CHD, past history, symptomatology, physical findings, laboratory and EKG data, and post mortem findings when available. This report deals with selected items from the total information.

Results

A total of 115 patients fulfilled at least one of the required criteria. There was no significant difference in the yearly occurrence of the disease, with an even distribution over the five-year period.

The age and sex distribution is shown in Table I. Nineteen males and six females were younger than 50. Early deaths; i. e., those occurring within 30 days of the episode of MI, are also shown. Death rate was higher for females.

Table II shows the distribution by race and sex. There were nearly three times as many whites as non-whites in the group. There did not appear to be much difference in the age at death between racial groups among the males; however, non-white females tended to die at a younger age.

Table III correlates occupation with race and shows deaths in each occupational group. In the white population the highest death rate occurred in the unemployed and retired group, which also had the highest mean age. No appreciable difference in death rates

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UPR School of Medicine, San Juan, P. R.

TABLE I: AGE AND SEX DISTRIBUTION OF 115 CASES OF MYOCARDIAL INFARCTION SHOWING DEATHS WITHIN 30 DAYS

Age	Cases		Deaths	
	Males	Females	Males	Females
30 or less	2	0	0	0
31-40	5	0	2	0
41-50	12	6	4	2
51-60	18	4	1	0
61-70	14	19	6	8
OVER 70	21	14	9	6
TOTAL	72	43	22	16
DEATH RATE			31 percent	37 percent

was observed between any of the other occupational categories. In the non-white group there were no white-collar workers. The highest death rate occurred among housewives, even though the mean age was again highest in the unemployed and retired patients.

The most common presenting symptom was chest pain, occurring in 85 patients, 19 of whom died. The second most common manifestation at entry was congestive heart failure in 11, of which six died. A high mortality was also found in patients presenting with shock and with signs of cerebrovascular disease. One patient presenting with Stokes-Adams seizures died. Two arrived in extremis and died without giving a proper history. An unusual case was a man who presented as a bleeding peptic ulcer but had a MI.

Table IV correlates the admission pulse and blood pressure levels with early mortality. Heart rate abnormalities were accompanied by a high mortality, as were blood pressure levels lower than 90 mm Hg systolics. Individuals with a high blood pressure on admission had the lowest mortality.

Mortality was high (45 percent) in patients with pulmonary rales on admission, as opposed to that (26 percent) in individuals whose lungs were clear. Distant heart sounds were accompanied by a high mortality (46 percent), while the presence of murmurs did not appreciably increase death rate (27 percent) above that of patients with normal auscultatory heart findings (22 percent).

There was no apparent difference in mortality between patients having normal and those with elevated serum transaminase levels, nor between those with

normal and with elevated serum cholesterol. The number of patients having these determinations was so small, however, that interpretation of the results is difficult.

Table V correlates the location of MI by ECG with mortality in 96 cases in which definite information was available. Mortality was about the same for both anterior and posterior locations. One patient with two infarcts, one superior and one posterior, died.

Autopsy findings in 18 cases corroborated the anterior location of the six infarcts that had been so located by ECG, as well as the posterior location of three infarcts, and the presence of two infarcts in the patient mentioned above. The location of the infarct could not be determined from the ECG in three cases; all had anterior infarcts. In five cases the ECG alterations were not specific for MI; four had anterior and one posterior infarctions.

Table VI correlates the development of complications with mortality. Hypotension was again the complication with the worst prognostic significance for an early death. There were two cases who developed the post-MI syndrome. These have been excluded from the table because of the uncertainty in establishing this diagnosis. Both patients survived.

Table VII shows the percentage of deaths occurring at various intervals after onset of symptoms of MI in the 38 fatal cases. Over half the deaths took place within three days of onset, and the percentage decreased progressively at longer intervals.

Table VIII shows the quarterly distribution of MI and its attendant mortality. Over one-third of the cases occurred during the months of January through

TABLE II: RACE AND SEX DISTRIBUTION OF 115 CASES OF MYOCARDIAL INFARCTION,
SHOWING DEATHS WITHIN 30 DAYS

Race	M A L E S				F E M A L E S			
	Cases	Deaths	Rate (Percent)	Mean Age at death	Cases	Deaths	Rate (Percent)	Mean Age at death
White	54	18	33	66	31	11	35	74
Non-White	18	4	22	67	12	5	42	62
TOTAL -	72	22	31		43	16	37	

TABLE III: CORRELATION OF OCCUPATION WITH RACE, SHOWING AGE AND DEATHS IN
115 CASES OF MYOCARDIAL INFARCTION

Occupation	M A L E S			F E M A L E S			T O T A L		
	Cases	Mean Age	Deaths	Rate (Percent)	Cases	Mean Age	Deaths	Rate (Percent)	Mean Age
Laborers	25	59	5	20	16	59	3	19	59
White collar workers	16	53	4	25	0				
Housewives	19	64	4	21	8	65	4	50	64
Unemployed & Retired	25	75	16	64	6	78	2	33	76
TOTAL -	85	64	29	34	30	64	9	30	64

TABLE IV: CORRELATION OF ADMISSION PULSE AND BLOOD PRESSURE
TO DEATH IN 115 CASES OF MYOCARDIAL INFARCTION

	Cases	Deaths	Rate (Percent)
BLOOD PRESSURE:			
Normal	65	22	34
High	39	10	26
Shock Levels	11	6	55
PULSE:			
Normal	71	12	17
Tachycardia	48	22	46
Bradycardia	4	2	50
Imperceptible	2	2	100

TABLE V: CORRELATION OF LOCATION OF INFARCT BY ELECTROCARDIOGRAM
WITH DEATH IN 96 CASES

Location	Cases	Deaths	Rate (Percent)
Anterior	71	20	20
Posterior	24	7	29
Anterior & Posterior	1	1	100
TOTAL -	96	28	29

TABLE VI: CORRELATION OF COMPLICATIONS WITH DEATH IN 115 CASES OF
MYOCARDIAL INFARCTION

Complication *	Number of Cases	Deaths	Rate (Percent)
Congestive Heart Failure	45	21	47
Hypotension	30	21	70
Angina Pectoris	22	1	5
Arrhythmia	19	9	47
Pulmonary Emboli	6	2	33

* Not mutually exclusive

TABLE VII: INTERVAL BETWEEN ONSET OF SYMPTOMS AND DEATH IN 38 FATAL CASES OF MYOCARDIAL INFARCTION

Time Interval	Per Cent of Deaths
Less than 3 days	55
3-7 days	21
8-20 days	13
Over 20 days	11
TOTAL -	100

TABLE VIII: QUARTERLY OCCURRENCE AND MORTALITY OF 115 CASES OF MYOCARDIAL INFARCTION

Quarter	Number of Cases	Per Cent of Total	Per Cent Mortality
January - March	39	34	40
April - June	22	20	36
July - September	26	22	27
October - December	28	24	30
TOTAL -	115	100	

March, and mortality was highest during this quarter also.

Discussion

The small number of cases in this series has precluded the use of sophisticated statistical analysis of the findings. In addition it seems hazardous to attempt comparisons with other similar studies in the literature because of inherent differences in methodology, including criteria and their application. With these limitations in mind the following observations and comments are made.

There was a trend for a greater mortality among females with advancing years. Of the deaths in women 88 percent occurred after age 60, as opposed to 77 percent in men. This slightly worse prognosis for women, even for long-term survival, has been shown in other

countries as well (5).

The racial composition of the group represents that in the community served by the hospital. The trend for high fatality rate and early death in the non-white female has been previously reported (6).

The distribution of occupation among cases reflects the findings in the population from which they came, and the figures are so small that no really valid correlations to show causal relation to mortality can be made.

The highest mortality was observed in patients presenting with shock, congestive failure, cerebrovascular disease or Stokes-Adams attacks. In general this is in accord with current clinical experience and is borne out by a similar study (7), in which patients presenting with clammy sweat (akin to the "shock" of the present study) or cloudy sensorium (indicative of cerebrovascular disease) had mortality rates of 67 percent and 65 percent, respectively. Stokes-Adams

attacks were not such serious presenting symptoms, however, having a mortality of only 33 percent. Patients with dyspnea (congestive heart failure) had a 45 percent mortality. Cases with bradycardia or tachycardia showed a greater mortality, as in the present study. Similarly those with initial high blood pressure had low mortality, those with normal levels an intermediate mortality, while those in whom any fall in blood pressure was registered presented the highest death rate. These findings probably do not indicate any protective value of a high against a normal blood pressure, but rather the fact that some of the patients with normal admission pressures were hypertensives who had already experienced a fall to normal levels and thereby increase the mortality of this group.

In the same study the presence of poor quality heart sounds was associated with a mortality rate of 50 percent, very similar to the present findings. There was no difference in mortality between anterior and posterior infarctions in either study. Other investigators, however, have found posterior infarcts to have a higher mortality (8), while in the opinion of still others (6) posterior infarcts seem to do better.

There was good correlation of autopsy findings to location of the infarct as determined by ECG. When the tracing was negative, nonspecific or insufficient to ascertain the location, the MI was usually anterior.

The most frequent complication registered in this study was congestive heart failure in 39 percent of patients. Failure of constant monitoring resulted in the low prevalence of arrhythmias in this group, which have been reported to occur in up to 100 percent of patients with definite MI (9). The most lethal complication was shock.

None of these cases was treated in a coronary care unit. Early mortality is comparable to that of other studies (10) but lower than that found by still others (4). Differences in care with location and with time must be kept in mind.

Although Puerto Rico cannot be said to experience significant seasonal changes during the year, the finding of the highest mortality rate in the first quarter (Jan.-Mar.) parallels somewhat the high mortality found in the winter months in several cities of the United States (7, 11-15), although in some cities mortality has been highest in the autumn (8, 16) spring (17), or summer (18).

The wide variability of findings in MI occurring not only in various areas of the world but even within a small island such as Puerto Rico suggests that results

of clinical studies apply only to the general area in which they are conducted and that wide extrapolation on conclusions is not warranted.

Summary

One hundred fifteen cases of myocardial infarction admitted during a five-year period to an indigent hospital in the San Juan area are reported, with emphasis on mortality with respect to age, sex, race, occupation, presenting symptoms and signs, laboratory and electrocardiographic findings, and autopsy reports. Because of the small numbers involved no definite conclusions can be drawn, but similarities and discrepancies with other studies of the same nature are noted. The existence of a differential mortality from cardiovascular disease in several areas within Puerto Rico is stressed.

Resumen

Se analizaron 115 casos de infarto de miocardio recluidos durante un período de cinco años a un hospital de indigentes del área de San Juan, haciendo énfasis sobre la mortalidad con respecto a la edad, el sexo, la raza, la ocupación, los síntomas y hallazgos de entrada, y los hallazgos de laboratorio, de electrocardiograma y de autopsia. Se observaron similitudes y discrepancias con otros estudios de esta naturaleza, pero no se pudo hacer conclusiones definitivas debido al pequeño número de casos estudiados. Hay cierta diferencia en la mortalidad cardiovascular entre distintas regiones de Puerto Rico.

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IMMUNE RESPONSIVENESS AND IMMUNOTHERAPY IN PATIENTS WITH METASTATIC MELANOMA

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In order for immunotherapy to be effective in man certain basic criteria must be present. First, tumor specific or tumor associated antigens should be present on the surface of the tumor cells. Second, the immune surveillance mechanism and the immune response to these tumor specific or tumor associated antigens should be adequate and this includes both the cellular and the humoral response. Third, there should be absence of blocking or enhancing antibody.

Certain agents have been well documented to be oncogenic and these include chemical carcinogens and DNA and RNA viruses. There is little cross-reactivity between the tumor specific antigens produced by chemical carcinogens (1), whereas with the DNA and RNA oncogenic viruses there is general cross-reactivity so that the tumor specific antigen produced by the viral agent is peculiar to all cells transformed by that virus (2). The factors that suggest that tumor specific antigens are transplantation-type antigens include: (1) the detection of the neoantigen on the cell membrane utilizing a variety of serological techniques, (2) localization on the cell membrane by immunofluorescence, (3) immunization of a congenic animal with the tumor elicits both humoral and cellular immune response, and (4) a recipient animal immunized with either the intact tumor or the oncogenic virus itself may render the host immune and protect against the tumor. Human spontaneous tumors that have defined tumor specific antigens include neuroblastoma, melanoma, Burkitt's lymphoma, soft tissue sarcomas and alimentary tract carcinomas (3).

If a tumor specific antigen is present and this is different from the host genotype, why then does not the immune surveillance or immune response mechanism destroy the tumor as it appears? Explanations for this unrelenting growth of the tumor could include the fact that tumor specific antigens may early be insufficient antigenic stimulants to generate an immune response and by the time the tumor has generated an appropriate immune response the mitotic potential or antigenic load of the tumor could have become too great for the host to overcome. Although the host could become tolerant to the tumor, present data suggests immunologic enhancement. In both animal and human systems enhancing or blocking type antibodies have been demonstrated by a variety of techniques (4, 5). Also, one must consider the possibility of a depressed or absent host immunological defense mechanism. This could explain why children with immune deficiency disease have a 15 percent incidence of malignancy as well as the 80-fold increased instance of malignancy in immunosuppressed renal transplant patients between the ages of 20 and 40 years.

In an effort to activate the immune system one can consider non-specific means of immunotherapy or specific means. Non-specific immunotherapy background includes the work of Davignon (6) who demonstrated that BCG vaccinated children for the prevention of tuberculosis brought about a decreased instance of acute leukemia by 60 percent. Studies in Great Britain and those recently reported by Rosenthal both confirm this observation. Mathe (7) noted a marked increase in remission time in acute leukemia with serial injections of BCG and/or irradiated leukemic cells for immunization of patients in remission. Morton and Seigler (8, 9) have demonstrated a local and questionably systemic response in regression of melanoma with BCG administered intratumor. Specific immunization studies were early completed by Rapp in which he noted that when administering host lymphocytes and tumor mixed that they had a marked de-

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crease instance in the take of the tumor in the rodent. Also immune lymphocytes given into guinea pig hepatomas caused a complete regression with cure in 30 percent of the animals studied (10). Seigler (9) has reported that specifically sensitized autologous lymphocytes with melanoma cells brought about an increase in the anti-melanoma antibody titers with local host immunity in 4 of 22 patients. Simmons (11) has demonstrated that when treating autologous tumor with neuraminidase that immunization with this material brought about a 30 percent regression in sarcomas with survival in the animal studied.

Results in 120 patients with melanoma that we have studied and treated by immunotherapy will now be described.

Methods

This is a staged immunotherapy regimen with approximately 8 weeks between each stage. The first stage includes sensitizing the patient with BCG. This is an effort to render the host immune to a specific but indifferent antigen. In the second stage the patient receives intratumor injection with BCG. This produces a local delayed hypersensitivity response within the tumor nodule. In the third stage the patient is placed on a blood cell separator and approximately 5×10^9 autologous lymphocytes are obtained and these are specifically sensitized in culture and then readministered to the patient. This is an adoptive transfer experiment designed to passively convey specific immunity. In the fourth stage the patient is specifically boosted with x-irradiated autochthonous tumor cells that have been treated with neuraminidase in an effort to increase their immunogenicity. BCG is used as an adjuvant.

Methods of monitoring humoral immunity include mixed agglutination, complement fixation, cytotoxicity, gel precipitation and immunofluorescence. We have recently reduced our screening to cytotoxicity and mixed agglutination assays.

Methods of monitoring cellular immunity include adoptive transfer experiments, neutralization, delayed cutaneous hypersensitivity, inhibition of macrophage migration, lymphocyte transformation, cell mediated cytotoxicity and colony inhibition. The antigen panel that we have used for evaluation of immune competence *in vivo* includes 24 delayed allergens.

Results

Serum immunoglobulin levels in patients with malignant melanoma revealed normal IgA and IgG levels and only infrequent IgM values were below the normal range. Serologic evaluation for tumor specific antibody revealed positive response in 31 of our first 70 patients studied. Seventeen of the 31 were positive by mixed agglutination, 30 of 31 by cytotoxicity and 20 of 31 by complement fixation. Specificity studies revealed

that all positive sera remained positive after absorption with HeLa, Hep, three normal skin fibroblast cell lines and pooled normal lymphocytes to remove all HL-A activity. Only three of the 70 sera tested reacted by direct testing with normal lymphocytes, HeLa, Hep and three normal skin fibroblast cell lines.

The striking thing noted was that almost without exception these patients with melanoma demonstrated either hyporesponsive skin test reactivity or anergy. After completing the immunotherapy regimen several interesting things were noted in the response of the patient's lymphocytes in culture. Prior to treatment, the only normal response in culture was to phyto-hemagglutinin. However, after completion of the regimen the stimulation index for PHA, unrelated lymphocytes, PPD, BCG and unrelated fibroblasts were all within the normal range for our laboratory. The most interesting finding was the response of the patient's autologous lymphocytes to the autologous melanoma cells that had been x-irradiated. The mean stimulation index was 8.5 and this is the highest stimulation that we have seen by autochthonous tumor cells.

In our cellular immunity assay we radiolabel a tissue culture monolayer with 125 I uridine. Patient lymphocytes are added to the tumor monolayer and if cellular immunity is present isotope counting of the monolayer demonstrates the degree of lysis. The control is done with the normal skin fibroblasts from the same patient. Cellular immunity evaluation in 62 patients rested revealed that 43 of 62 were positive for cellular immunity after completing the immunotherapy regimen. The degree of lysis was increased in most patients by the regimen. All 19 patients without cellular immunity had diffuse disease and progressed to death.

In order to evaluate serum blocking factor one can utilize the same test system. The patient's serum is added instead of normal human serum and if blocking factor is present, decreased or no lysis will be noted.

Serum blocking factor evaluation in the 62 patients tested demonstrated that 21 of 62 patients were positive for serum blocking factors. This, however, did not correlate with the clinical course. Blocking factor was not present in 20 patients that had progression of disease to death.

Overall evaluation at the present time reveals that in the first 120 patients that we have evaluated 34 percent have expired secondary to their melanoma process, 43 percent continue to have the disease and 23 percent have remained free of disease. The study has been in progress for approximately three and one-half years and some patients have remained well

for the entire period. For melanoma this is obviously too short of a follow-up period to make any firm statements about the immunotherapy regimen or what the overall effectiveness of this mode of treatment will be. Suffice it to say that this study reveals hyporesponsiveness to delayed hypersensitivity skin tests in two-thirds of patients with melanoma and low IgM levels in approximately 20 percent.

Comments

We have demonstrated tumor specific or tumor associated antigens for melanoma, and have shown that by an immunotherapy regimen one can stimulate cellular immunity and humoral immunity to the antigen. Serum blocking factors have been demonstrated, but the disappointing thing is that one cannot correlate any one feature with the clinical course. One cannot make the statement that cellular immunity will be followed by disease regression or that serum blocking factor can predict a bad response. The only patient category that we are benefiting by this regimen include those patients that have their metastatic disease confined to the skin, subcutaneous tissue and lymph nodes. If the disease has progressed to involve the parenchyma, bone marrow or central nervous system our responses have been quite transient and of no clinical significance.

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INTERNATIONAL CONFERENCE ON THE PHYSICIAN AND POPULATION CHANGE - September 4-5-6, 1974 - Stockholm, Sweden - For information write to: Sir William Refshauge, Secretary General, The World Medical Association, Inc., 10 Columbus Circle, New York, New York 10019.

INTERSTATE SCIENTIFIC ASSEMBLY: NOV. 3-7 - The 59th Annual International Scientific Assembly of Interstate Postgraduate Medical Assn. will be held at The Diplomat Hotel and Resort, Hollywood, Florida, Nov. 3-7. This program, primarily designed for Primary Physicians in the U. S. and Canada, has been planned cooperatively with the Florida Academy of Family Practice and the University of Miami School of Medicine. It will provide 26 hours of prescribed credit for A.A.F.P. members who attend.

The program will consist of lectures, informal group discussions, medical movies and symposia on a variety of topics, with major emphasis on pediatrics, internal medicine, cardiology and psychiatry related to office practice. Guest lecturers include Fletcher Derrick, M. D., Charleston, S. C. (Urology); E. S. Gordon, M. D., Madison, Wis. (Endocrinology); Wm. A. Long, M. D., Jackson, Miss. (Pediatrics); Wm. P. Longmire, M. D., Los Angeles (Surgery); Noel Mills, M. D., New Orleans (Vascular Surgery); C. Thorpe Ray, M. D., New Orleans (Internal Medicine); and James W. Wilson, M. D., Durham, N. C. (Pathology). An additional 35 teachers from Miami and Gainesville, Florida, will instruct at the Assembly.

The Assembly is open to any licensed MD in the U. S. or Canada at a fee of \$35 in advance or \$50 at the meeting. Those interested in full details of the meeting and hotel forms should write to: Alton Ochsner, M. D., Program Chairman, Interstate Postgraduate Medical Assn., P. O. Box 1109, Madison, Wis. 53701.

New Rand Study:

PHYSICIANS WOULD BE SWAMPED UNDER SOME NATIONAL HEALTH INSURANCE PLANS, REPORT SAYS

Santa Mónica, Calif., June 13— Physicians' offices and clinics would be swamped, but hospitals could absorb the increased demand for services that would be created by any national health insurance program that covered all, or most, medical bills.

That is the conclusion of three research scientists in a Rand Corporation report published in this week's issue of *The New England Journal of Medicine*.

The report, entitled "Policy Options and the Impact of National Health Insurance," was written by Dr. Joseph P. Newhouse and Dr. Charles E. Phelps, senior economists at Rand, and Dr. William B. Schwartz, physician-in-chief of the

Tufts-New England Medical Center, Boston, who is also a Rand consultant.

Because 90 percent of hospital bills already are covered by health insurance and only four of five hospital beds are usually occupied, the additional demand for hospital care under a national program which covered all hospital costs probably could be absorbed by the system without difficulty, the researchers say.

But only 40 percent of ambulatory health care—that care obtained in physician's offices and clinics—is presently covered by insurance, the report says. And if most, or all, of ambulatory care were covered by a national health plan, the authors predict that "the increased demand would far exceed the current capacity of the delivery system."

Some, or all, of the following events, they say, would be likely to occur in short order:

The cost of physicians' services would go up, patients would experience longer delays in receiving appointments and would encounter longer waiting lines in doctors' offices, and physicians would spend less time with each patient.

But the number of visits to physicians probably would not rise appreciably because the system now appears to be at or near capacity, the report says.

The net effect of changes in waiting time, the authors contend, would be "to reduce demand for ambulatory services among the relatively affluent who are primarily time-poor (that is, who are reluctant to take the time to wait in line), and thus to enhance the tendency of a national health insurance program to reallocate services toward the dollar-poor."

Whatever form of insurance is adopted, the researchers conclude that there is no reason to believe increased resources spent on health care will appreciably extend life expectancy.

"The highest return on additional investment in health service," they say, "will almost certainly result from an improvement in the quality of life" in such matters as relief of severe pain and alleviation of anxiety.

Social factors responsible for premature death—such as poverty, smoking, alcoholism and automobile accidents—"are little affected by the availability of health services," the report says.

"Similarly, the major biological determinants of life expectancy—such as cardiovascular disease and cancer—are not dramatically influenced by current forms of therapy.

"Provision of additional health care is therefore not likely to influence mortality statistics more than slightly unless research advances lead to new therapies affecting several of the major causes of death."

The authors point out that there is little evidence that the increased use of preventive medical services, such as multiphasic screening or annual physical examinations, would have any pronounced effect on life expectancy.

The research team also expressed the view that more outpatient services will not necessarily reduce the demand for

expensive hospital services.

"In most cases where out-patient coverage alone has been increased, there has been, if anything, a slight increase in demand for in-patient services," the report says.

One possible explanation for this finding, the authors say, "is that the additional use of ambulatory services leads to the discovery of disease requiring hospitalization, and that this offsets the shift of some care away from the hospitals."

At the outset of their report, the authors emphasize it is not their purpose to consider what legislation should be enacted, but rather "to anticipate, as well as possible, the impact of the major policy options that have been proposed for health care financing."

They looked at plans for full coverage, under which everyone would receive free medical care; for 25 percent coinsurance, in which the insured pays only the first 25 percent of the bill; and for small and large deductibles, in which the insured pays only a set initial dollar amount and all costs over that are covered.

Both the full coverage and coinsurance plans would sharply stimulate demand for ambulatory services, the authors say. In the case of full coverage, they estimate demand would increase 75 percent; in the case of the coinsurance plan, a 30 percent increase. And these estimates, the authors say, are conservative.

If the extra demand were met and prices were not raised, the cost to the nation for full coverage insurance--hospital and ambulatory--would be an added \$8 billion to \$16 billion annually, while the coinsurance plan would raise costs an extra \$3 billion to \$7 billion, based on 1972 prices.

The nation now spends about \$62 billion annually on health services that would be affected by national health insurance.

In looking at insurance involving small deductibles--say, \$100 to \$150--the researchers say such coverage "could exert an important effect on reducing demand for ambulatory services" while having little effect on hospital services.

The research team also examined the potential effect of a large deductible plan, or "catastrophic coverage"--so-called because it is designed to prevent financial disaster brought on by unusually large medical bills. It requires the insured person to pay some amount, like the first \$2,000, after which insurance would pay the rate.

"Although such a plan would remove the usual upper limit on coverage, it would in all likelihood add little to total demand," for either hospital or ambulatory services, the authors say.

If Congress were to remove the present favorable tax treatment on health insurance premiums, making the retention of existing private health insurance less attractive as supplemental coverage, there could actually be a decrease in the demand for health care, in the authors' view.

(At present, premiums paid by employees cannot be treated as taxable income to the employees covered, and half of health insurance premiums an individual pays--up to \$150--can be taken as a personal tax deduction.)

Demand under such coverage could shift markedly upwards--by billions of dollars--if new technological breakthroughs occur, such as the development of an artificial heart or similar high-cost therapy, the authors say.

How can productivity be increased to meet increases in

demand for health care services?

The authors looked at health maintenance organizations, which operate under a system of pre-paid medical care, and found that while they tend to reduce the demand for hospital beds, there is no evidence that they have increased productivity in the delivery of ambulatory care.

More promising, the authors say, is the use of allied (or paramedic) personnel--persons with special training who are not doctors.

"Unfortunately, however," the report says, "most physicians appear reluctant to employ additional personnel," so that no estimate can be made at this time of what their impact would be.

When it comes to choosing a form of national health insurance, the authors say the nation will have to decide what its goal are for health care.

If the objective is to see that everyone gets care without being inhibited by its cost, full coverage insurance is preferable, the authors say.

But to place some damper on demand until the system can cope with it, a deductible insurance--perhaps \$150 to \$200--may be necessary, they believe.

If the goal is to prevent severe financial hardship while holding resources devoted to health care to present levels, "an income-related deductible plan would be preferable," they say--that is, a deductible based on a person's ability to pay.

The major policy debate in health insurance, the authors say, is between those who consider health care a right and those who believe society should be concerned only with whether the individual has adequate income--and then spending it as he sees fit.

"The share of society's resources devoted to medical care has increased sharply in the past 20 years from 5 to 8 percent"--well over a 50 percent rise in medical care outlay--the report says. "Our estimates indicate that if a national health insurance plan were enacted which fully covered all medical services, the share of gross national product devoted to health would rise to about 11 percent, valued at present prices."

The report draws upon Rand research supported by the Office of Economic Opportunity, and by the National Center for Health Services Research and Development and the National Institutes of Health of the U. S. Department of Health, Education and Welfare.

Dr. Newhouse is acting head of health sciences research at Rand and is the designer of a health insurance study in which different types of insurance are being field-tested. The first field test is under way at Dayton, Ohio.

Dr. Schwartz is a noted kidney specialist and president-elect of the American Society of Nephrology. He is also regarded as an expert on the use of computers in clinical decisionmaking.

The research is being undertaken within Rand's domestic programs division, headed by Gustave H. Shubert, Rand vice-president. Rand, a private, nonprofit institution engaged in research into problems of national security and domestic affairs, is headed by Dr. Donald B. Rice, president.

The Newhouse-Phelps-Schwartz report is available, at nominal cost, from the Publications Department, The Rand Corporation, 1700 Main Street, Santa Mónica, California, 90406.



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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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Librium[®] 10-mg capsules
(chlordiazepoxide HCl)



ASOCIACION MEDICA

DE

PUERTO RICO

THE FRANCIS A. COHEN
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BOSTON

NOV 6 1974

agosto 1974

Vol. 66

No.8

Boletín

Both often



Predominant
psychoneurotic
anxiety

Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

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According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

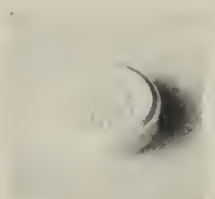
There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or

two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

1. Henry BW, *et al*: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, *et al*: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.



Valium[®] (diazepam)

2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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Final classification of the less-than-effective indications requires further investigation.

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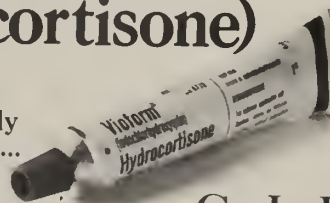
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BOLETIN

ASOCIACION MEDICA DE PUERTO RICO



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Healing nicely, but it still **HURTS**

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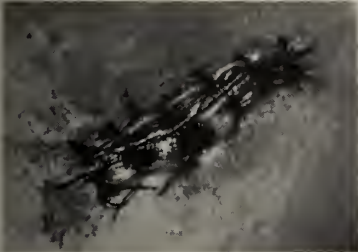
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A CLINICAL

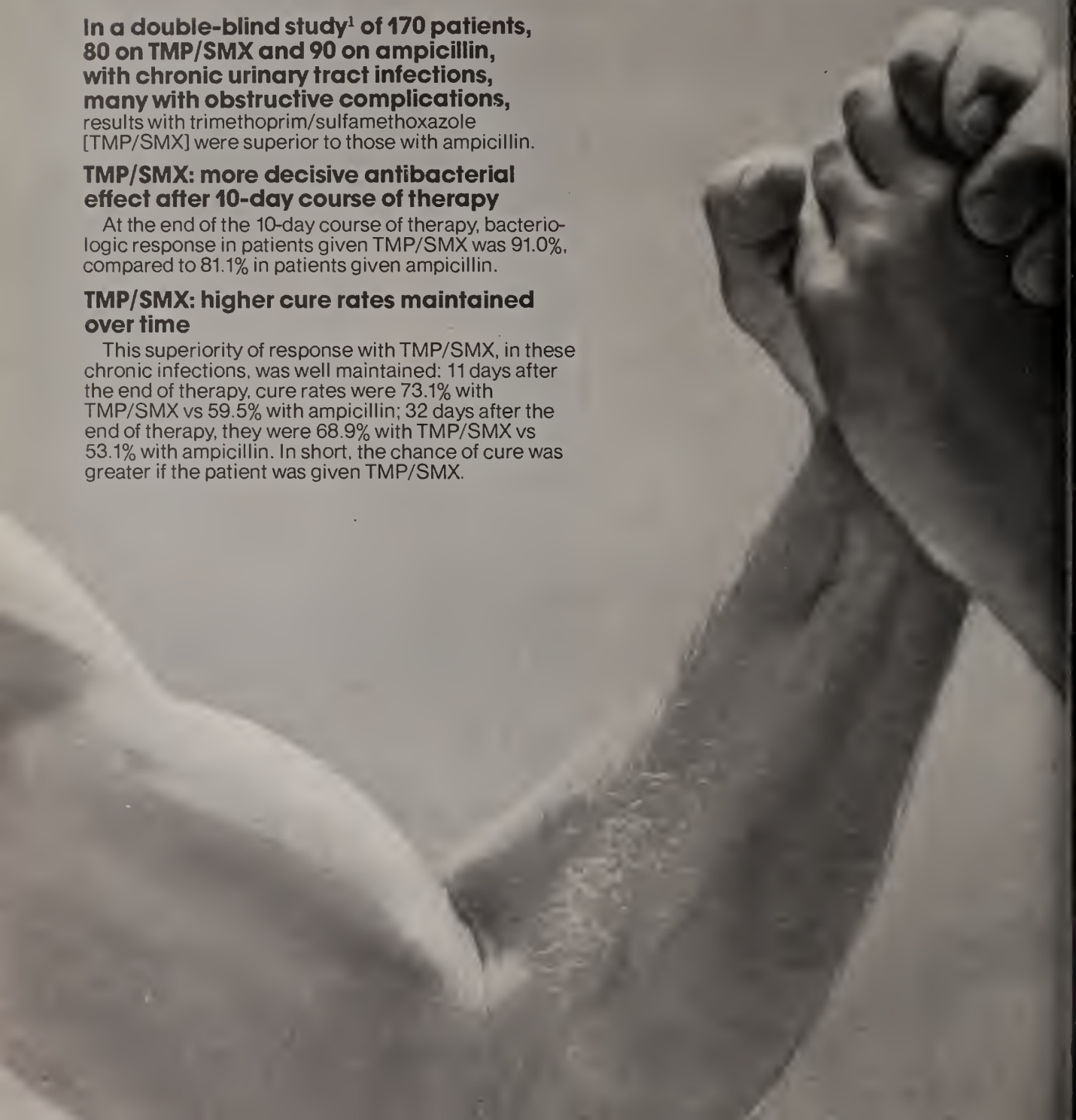
In a double-blind study¹ of 170 patients, 80 on TMP/SMX and 90 on ampicillin, with chronic urinary tract infections, many with obstructive complications, results with trimethoprim/sulfamethoxazole [TMP/SMX] were superior to those with ampicillin.

TMP/SMX: more decisive antibacterial effect after 10-day course of therapy

At the end of the 10-day course of therapy, bacteriologic response in patients given TMP/SMX was 91.0%, compared to 81.1% in patients given ampicillin.

TMP/SMX: higher cure rates maintained over time

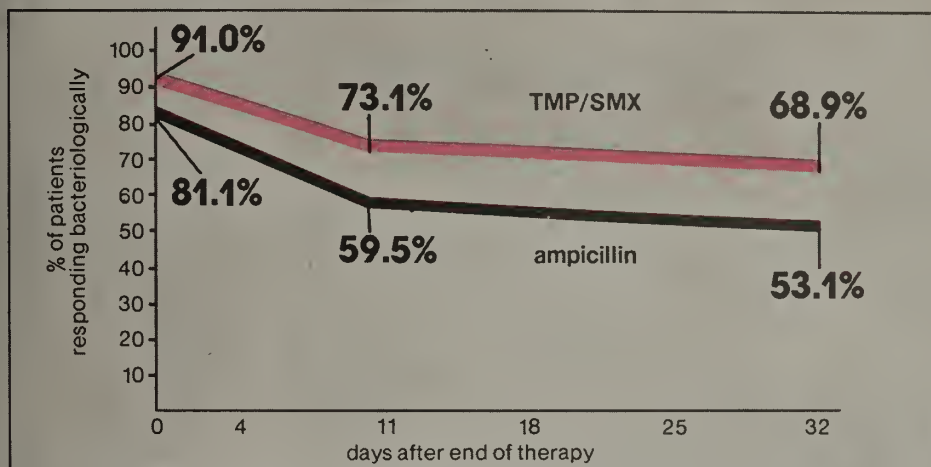
This superiority of response with TMP/SMX, in these chronic infections, was well maintained: 11 days after the end of therapy, cure rates were 73.1% with TMP/SMX vs 59.5% with ampicillin; 32 days after the end of therapy, they were 68.9% with TMP/SMX vs 53.1% with ampicillin. In short, the chance of cure was greater if the patient was given TMP/SMX.



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Results after 10-day course of therapy in 170 patients with chronic urinary tract infection¹



Protocol—Dosages: trimethoprim/sulfamethoxazole 2 tablets b.i.d. or ampicillin 500 mg q.i.d. plus placebos to make each drug regimen appear to be identical. Infecting organisms: *E. coli*, *Proteus mirabilis*, indole-positive *Proteus*, *Enterococci*. Criterion for infection: 100,000 or more organisms/ml urine; criterion for cure: 10,000 or less organisms/ml urine.

See next page for prescribing information.

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THE USE OF FLEXIBLE FIBEROPTIC COLONOSCOPY IN THE DIAGNOSIS AND MANAGEMENT OF COLONIC DISEASES

Gerald Marks, MD

Until the late 1960's, with the advent of flexible fiberoptic instruments, the barium contrast study and the sigmoidoscope were the only non-surgical methods of examining the interior of the colon. In 1969, the flexible fiberoptic colonoscope, measuring about 105 cm. in length, was made available in this country. An instrument of 165 to 188 cm. in length now makes inspection of the colon up to the ileum possible without laparotomy and colectomy (Fig. 1). Instruments of greater diameter, with two working channels, are now available for polypectomy (Fig. 2).

The essence of the fiberoptic colonoscope is the flexible glass fibers along which a cold light is passed through a lens system. These incoherent glass fibers, measuring 17 micra in diameter, and grouped in bundles of 200,000, transmit the light from the external halogen source through the flexible colonoscope, and illuminate the interior of the colon. Spatially coherent glass fibers reflect the image through a lens system housed in the head of the instrument. All available instruments can be adapted for still and motion photography (Fig. 3).

Sigmoidoscopy and barium enema studies are still the primary non-surgical methods of examining the colon for colonoscopy is too expensive to be used for screening purposes. Colonoscopic examination is reserved for those cases in which sigmoidoscopy and X-ray study have proven unsatisfactory in the presence of clinical findings suggestive of disease.

Colonoscopy is performed in an environment ordinarily containing particulate matter and opaque fluids which make adequate inspection impossible.

The colon, therefore, must be free of such materials. Several days of saline cathartics and liquid diet have

proven effective in preparing the colon for the examination. An experienced endoscopist can perform colonoscopy without radiographic guidance or surveillance. Diagnostic colonoscopy is performed with the patient in a comfortable Sims position, and a small amount of sedation administered just prior to the examination allows the procedure to be carried out with very little discomfort. When surgical colonoscopy is performed, Valium is given intravenously.

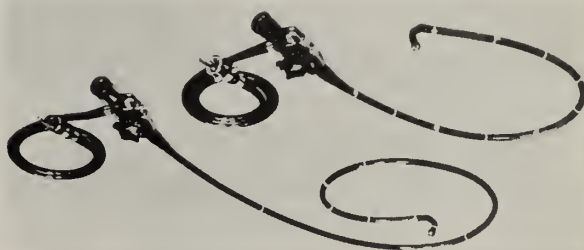


Fig. 1: Flexible fiberoptic colonoscope: the shorter one measures 105 cm. in length, the longer one measures 165 to 188 cm.



Clinical Associate Professor of Jefferson Medical College
of the Thomas Jefferson University, Philadelphia, Pennsylvania;
Consultant, VAH, San Juan.



Fig. 2: Operative colonoscope: Olympus Model (A). American Cystoscope Makers, Inc. Model. (B).

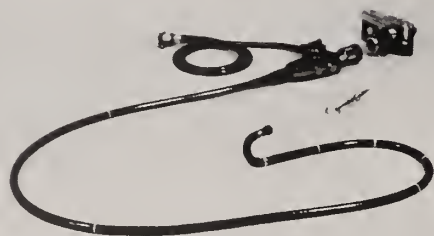


Fig. 3: The flexible fiberoptic colonoscope with camera attached.

Indications

Many lesions and conditions of the colon which lend themselves to colonoscopic examination are listed on Table I.



Fig. 4: Foreign body: plastic enema gasket (A). Retrograde colonoscopic removal of foreign body (B).

Inflammatory Disease: As a result of the increased use of the colonoscope in diverticular disease, it has become evident that diverticular processes are underestimated by barium enema examination. Colonoscopy has disclosed acute changes not noted on roentgenographic studies. The number and size of the diverticula also seem greater when viewed through the colonoscope, and the endoscopist can recognize the characteristic changes of mucosal edema, submucosal fibrosis, bowel wall rigidity, friability, bleeding and mucopurulent exudate. The distinction between malignant and non-malignant processes also has been made on many occasions with the colonoscope. This ability to differentiate between cancer and a benign diverticular disease becomes vitally important in the older,

poor-risk patient for whom nothing short of cancer serves as an excuse for laparotomy and colectomy.

The greatest demand for diagnostic assistance is in the exclusion of cancer in the chronic ulcerative colitis patient and, unfortunately, the invasive type of cancer associated with this disease is principally intramural and can escape detection by colonoscopic biopsy. Chronic ulcerative colitis complicated by stricture should be viewed as malignant until proven otherwise by resection.

Inflammatory lesions, such as ischemic colitis, pneumatoses cystoides intestinalis, and unspecified colitides have been colonoscopically diagnosed with roentgenography, and radiographic diagnoses of these diseases have been corroborated. When radiation proctitis and colitis prevent adequate examination with the sigmoidoscope beyond the 6 to 7 cm. level, the flexible fiberoptic colonoscope is helpful.

Foreign Bodies: The need to remove foreign bodies from the colon is rare, but a plastic colostomy irrigation gasket lost through the stoma was successfully recovered from an individual with irradiation injury that prevented its passage into the rectum (Fig. 4).

Anastomosis: Interpreting a normal lumen when there is radiographic suspicion of anastomotic tumor recurrence is difficult because the anastomosis can appear normal while a large extramural tumor is present. Colonoscopic inspection of surgical anastomoses has provided information which allowed safe colostomy closures in the absence of definitive barium enema findings.

Polypoid Disease: Colonoscopy has had its greatest impact in the management of polypoid disease by providing a means of discovering, defining and removing polypoid lesions without laparotomy.

Both benign and malignant polypoid lesions have been diagnosed in patients presenting with gross rectal bleeding following negative roentgenographic examinations. (1, 2)

Electrosurgical snares, using a combination of pressure and electrosurgical current have been designed

6. Colitides - unspecified

- B. Colonic Hemorrhage
- C. Cancer
- D. Suture line recurrence of cancer
- E. Foreign bodies
- F. Polypoid disease

for transecting the stalk of a pedunculated polyp. Transection can be accomplished safely, but dexterity and experience are required to assure complete removal of the polyp without inflicting damage upon the



Fig. 5. Electrosurgical scissor-type forceps developed by author.

adjacent bowel wall. The author developed an electro-surgical scissor type forceps to be used principally for the removal of polyps with slender pedicles (3) (Fig. 5).

While there have been instances of hemorrhage or perforation coincidental to polypectomy which necessitated laparotomy reported in the literature, innumerable procedures have been successfully done without incidence. The enormity of the advantages of colonoscopic polypectomy, in terms of safety, comfort, expense and time lost from gainful employment, becomes evident when contrasted to polypectomy with colotomy.

In summary, the colonoscope is an effective means of diagnosing and defining inflammatory lesions and neoplasms when barium enema studies are inconclusive. The most striking impact of this instrument, however, has been on polypoid disease of the colon. The flexible

TABLE I: CLINICAL INDICATIONS

A. Inflammatory Disease

1. Diverticular disease
2. Ulcerative colitis
3. Granulomatous colitis
4. Radiation injury
5. Pneumotosis cystoides intestinalis

fiberoptic colonoscope has proven to be a significant advance in the diagnosis and management of colonic disease, and the capability of performing polypectomy, without laparotomy, is an advantage which defies measurement.

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flexible fiberoptic colonoscopy. Surg. Clin. N. Amer., 53: 735, Jun., 1973.

2. Wolff, W. L. and Shinya, H.: Colonofiberoscopy. J.A.M.A., 217: 1509, 1971.

3. Marks, G.: Electrosurgical scissor-type polyp forceps for the colonofiberscope: preliminary report. Disc. Colon Rectum, 16: 345, Jul/Aug., 1970.

ACCELERATED IDIOVENTRICULAR RHYTHM DURING PREGNANCY: A REPORT OF TWO CASES

Juan M. Aranda, MD
Francisco X. Veray, MD

Accelerated idioventricular rhythm was first noted after experimental coronary occlusion (1) and has subsequently been reported with various terminologies since the advent of constant electrocardiographic monitoring in coronary care units. Some of the terms used to describe this rhythm include *slow ventricular tachycardia* (2), *nonparoxysmal ventricular tachycardia* (3), *accelerated ventricular rhythm* (4), *idioventricular tachycardia* (5), and *accelerated isorhythmic ventricular rhythms* (6).

In this report, this rhythm will be referred to as "accelerated idioventricular rhythm" (AIVR), following the suggestion of Marriott and Menéndez (7).

The arrhythmia has been reported in association with acute myocardial infarction (8, 9) and digitalis toxicity (5, 6, 10) as well as in patients with rheumatic heart disease and myocardiopathy (6) who had not been on digitalis at the time the arrhythmia was recognized. It has also been reported in patients with no evidence of heart disease (6, 10) and during right heart catheterization (10). In his series of 23 cases, Schanroth (5) mentioned a 28-year old pregnant woman with accelerated idioventricular rhythm and no evidence of heart disease. To our knowledge, this has been the only report of AIVR during pregnancy, however, a description of the ectopic rhythm was not available in his report.

The clinical significance of this arrhythmia during pregnancy is incompletely understood at this time since not many cases have been reported in the literature. The clinical experience in the cases associated

with acute myocardial infarction and digitalis toxicity suggest that the arrhythmia is relatively benign and usually requires no treatment.

This is the first report in which AIVR is fully documented during an otherwise uncomplicated pregnancy. Special emphasis is made on the benign nature of the arrhythmia due primarily to the isorhythmic discharge rate which made paroxysmal emergence and appearance in the vulnerable period unlikely as suggested by Massumi *et al* (6).

Case Reports

Case 1

A 34-year old Gravida 7, Para. 5, Abortion 2, white female was first seen in the hospital in August 1970 because of substernal discomfort of mild to moderate intensity of several days duration accompanied by nausea and epigastric pain. It persisted without any other symptoms until 18 hours prior to admission when she developed a mild, dull precordial oppression which did not irradiate, lasted for minutes and was accompanied by shortness of breath. The pain was made worse by lying down and relieved by sitting up. She noted a shaking chill, epigastric pain, body aches and weakness, but denied fever, general malaise, nasal discharge or headaches. There was no history of dyspnea, orthopnea, paroxysmal nocturnal dyspnea, swelling of the lower extremities or trauma to the chest. She had no serious illness in the past and had had an appendectomy and tonsillectomy many years before admission. At the time of admission to the hospital she was on birth control pills. Family History as well as Review of Systems were non-contributory. The blood pressure was 118/78, pulse 70 per minute and regular, respirations 18 per minute, temperature 37° C.

There was no distention of the neck veins and the lungs were clear to auscultation and percussion. Cardiovascular examination revealed adequate peripheral pulses, no thrills, heaves or cardiomegaly. The first and second heart sounds were normal. There was a Grade 1/6 early systolic murmur in the upper third of the left sternal border at the pulmonic area. No S3 or S4 were detected. Systolic clicks were not present. The intensity of the murmur did not change on squatting or in the standing position. Electrocardiograms at the time of admission revealed

From the Department of Medicine, University District Hospital, University of Puerto Rico School of Medicine, the Department of Medicine, Beach Army Hospital, Fort Wolters, Texas and the Maternal and Infant Care Project, Department of Obstetrics and Gynecology, University of Puerto Rico School of Medicine.

AUGUST 1970

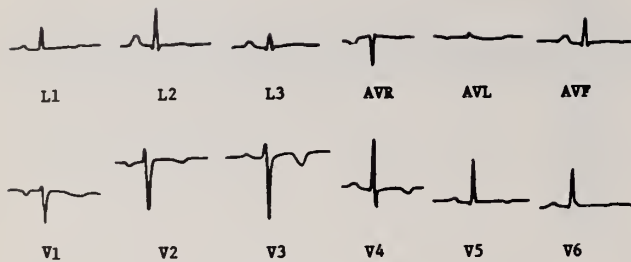


Figure 1. Case 1. Electrocardiogram 4 days after admission showed T wave inversion throughout the precordial leads as well as flat T waves in 2, 3 and A V F.

a QRS axis of $+60$, sinus rhythm, low T wave in 2, 3, aVF, V5 and V6, biphasic in V2 - V4. Serial electrocardiograms over the next four days revealed inversion of the T wave in V1 through V5. (Figure 1).

The following laboratory tests showed normal or negative results: hemoglobin, white blood cell count, differential count, fasting blood sugar, two-hour postprandial blood sugar, BUN, creatinine, serum electrolytes, serum amylase, serial SGOT, SGPT, LDH, CPK, HBD; LE prep., ANA, rheumatoid factor, VDRL, sedimentation rate, ASO titer, acute and convalescence fever agglutinins, PPD and stools for ova and parasites were negative. Serum protein electrophoresis, cholesterol and triglycerides were within normal limits. Serial chest X-rays during the hospitalization did not reveal any evidence of cardiomegaly, pleural or pericardial effusions, pulmonary venous congestions or infiltrates (Fig. 2).

After admission to the hospital the patient complained several times of precordial discomfort, not associated with any other symptoms. It did not increase with inspiration or change of position. No rubs, gallops or displacement of the ST segment were noted during these episodes. Two weeks after admission, the electrocardiogram showed an ectopic ventricular rhythm with multiple fusion beats at a rate of 90-100 beats per minute, with an average R-R cycle length of 640 milliseconds (AIVR). The rate of the preceding sinus rhythm was 85-90 beats per minute with an average cycle length of 700 milliseconds (Figure 3). The emergence of the ectopic rhythm was noted to be related to sinus slowing. The patient was completely asymptomatic, except for palpitations. Her vital signs were stable and the lungs were clear. Intravenous lidocaine, followed by oral quinidine sulfate were used to abolish the ectopic ventricular rhythm. She did well without any disturbance in her sinus rhythm until six days later when she developed a shaking chill followed by fever and an erythematous macular rash over the upper trunk. Physical examination was otherwise noncontributory. Over the next 24 hours repeated blood, urine, throat and spinal fluid cultures were done and reported as negative, as well as LE prep and antinuclear antibodies. After quinidine was discontinued, the fever and the rash disappeared over the next 24 hours. However, AIVR reappeared one day

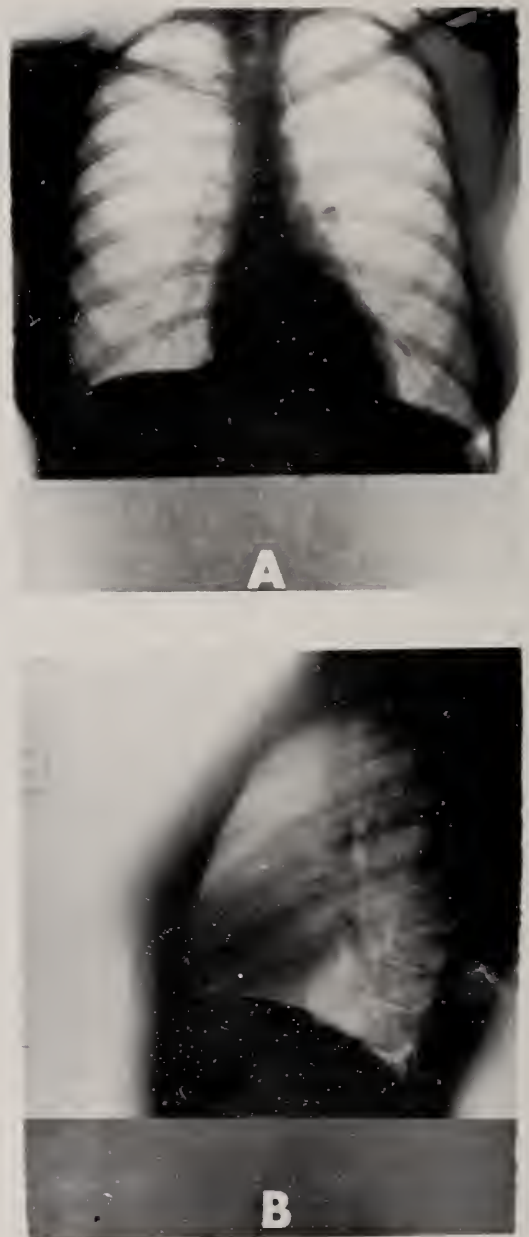


Figure 2. Case 1. A, B - September 1970. A-P and lateral chest x-ray showed a normal heart without evidence of pleural or pericardial effusions, venous congestion or infiltrates.

after quinidine was discontinued. She was placed on procainamide 250 mg. every four hours without any further episodes of the ectopic ventricular rhythm. Steroids were considered at this time, but were not given to the patient. She remained asymptomatic over the next 7 days and was subsequently discharged home on procainamide 500 mg. every six hours. The electrocardiogram at the time of discharge, in September 1970, was normal. The clinical impression was that of viral

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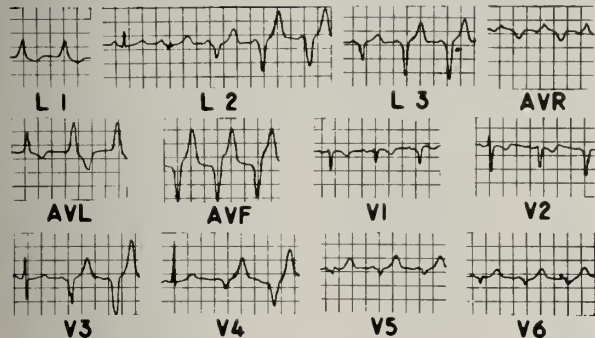
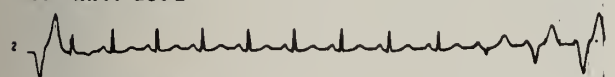


Figure 3. Case 1. September 1970, A I V R at a rate of 90-100 beats per minute. Multiple fusion beats are noticed in 2, 3, A V L and in the precordial leads.

A - MAY 1971



B - JUNE 1971



C - JULY 1971

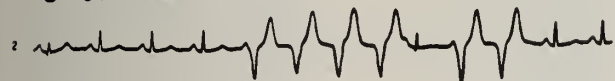


Figure 4. Case 1. Accelerated idioventricular rhythm with rare fusion beats.

myopericarditis. This was supported by the fact that the convalescence serum showed a definite rise in the neutralizing antibodies to Coxsackie B-2. The serum specimen at the time of admission was positive at 1:10 dilution and the convalescence serum three weeks later was positive at 1:40 dilution for the B-2 strain of Coxsackie virus. The patient was evaluated in consultation at the Cardiology Section in Brooke General Hospital where a phonocardiogram, apexcardiogram, echocardiogram of the mitral valve, left ventricular chamber and pericardium were performed and reported to be normal. The patient remained asymptomatic, except for occasional episodes of palpitations. In April 1971 a bicycle stress test to a rate of 160 beats per minute did not reveal any displacement of the ST segment. The dose of procainamide was tapered down to 1 gram per day. However, after it was known that the patient was pregnant, it was decided to continue the procainamide at this dose in order to avoid further episodes of the ectopic ventricular rhythm. In May 1971 (second trimester of preg-

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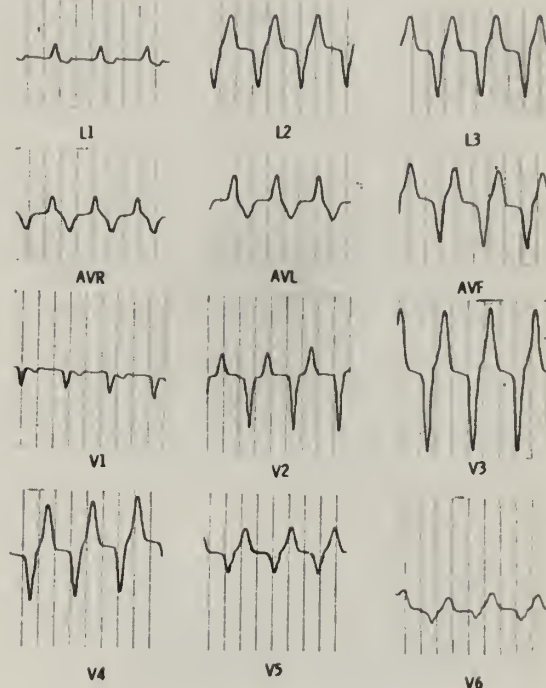


Figure 5. Case 1. August 1971, the notch in the T wave in Lead 1 may represent retrograde P waves. Retrograde V-A conduction enabled the ectopic pacemaker to remain in control for long periods of time.

nancy) a routine electrocardiographic tracing revealed AIVR at the rate of 90 per minute with many fusion beats. Serial electrocardiograms did not reveal any T wave changes. Repeated CBCs, urinalyses, sedimentation rates, ASO titers, LE preps., ANAs, protein electrophoresis and chest X-ray were negative or within normal limits. Neutralizing antibodies for Coxsackie B-2 at this time and repeated on several occasions during pregnancy revealed a titer of less than 1:10 dilution. Electrocardiographic tracings between May and August 1971 revealed frequent runs of the ectopic ventricular rhythm (Figure 4). Procainamide was increased to 500 mg. every six hours. Fusion beats were frequently seen (A, B, Figure 4) and the emergence of the ectopic mechanism was due to slowing of the sinus rhythm from 100 to 90 beats per minute. When the rate of the sinus rhythm was significantly less than the rate of discharge of the ectopic ventricular focus, fusion beats were not present (C, Figure 4). In this tracing the rate of the AIVR was 100 beats per minute (R-R cycle length 600 milliseconds) while the rate of the sinus rhythm was 85 beats per minute (R-R cycle length 720 milliseconds). The discharge of the sinus rhythm remained undisturbed during the episode of AIVR (C, Figure 4).

In August 1971 (third trimester of pregnancy) she was admitted to the hospital for observation after a routine electrocardiographic tracing revealed AIVR which lasted for several

hours (Figure 5). The notch in the T wave seen in Lead I on Figure 5 could represent retrograde P waves. This may indicate that retrograde V-A conduction in AIVR enabled the ectopic pacemaker to remain in control for long periods of time. Auscultation of the heart revealed a normal first heart sound, a splitted second heart sound and an intermittent fourth heart sound. No variation in intensity of the first heart sound was detected. The Grade 1/6 early systolic murmur in the upper left sternal border was present and unchanged from previous physical examinations. Immediately after admission she was given Atropine 0.8 mg. IV. The AIVR was suppressed when the sinus rate was increased to 105 per minute. The sinus mechanism predominated for about 30-45 minutes, however, it slowed down and was interrupted by bursts of the ectopic ventricular rhythm. Further doses of atropine failed to curtail the ectopic rhythm. Because of persistent palpitations, lidocaine was administered. After 10 minutes, either spontaneously or secondary to the antiarrhythmic agent, the patient's ectopic rhythm reverted back to sinus rhythm. Over the next 30 hours she had multiple runs of AIVR, but remained asymptomatic otherwise. Vital signs, hemodynamic status, as well as the fetal heart rate remained stable throughout this hospitalization. Because the serum potassium was 3.8 and since she had been on Diuril twice a week during the second trimester, KCl was administered PO. She was discharged and remained asymptomatic except for occasional episodes of palpitations. They usually disappeared spontaneously and were not accompanied by any other symptoms or related to any particular activity. On subsequent visits to the clinic, the electrocardiographic tracings revealed occasional runs of AIVR.

In October 1971 she was admitted to the hospital with labor pains. During delivery she had frequent runs of AIVR, as observed on the cardiac monitor. Vital signs, as well as the fetal heart tones, remained stable. She subsequently delivered an eight-pound baby without any other complications. Umbilical blood was obtained for procainamide level. During the next 24 hours the baby developed a relative bradycardia of 110-120 per minute, without any respiratory distress or cardiovascular complications. The rate subsequently went back to normal during the next 48 hours. Routine laboratory workup, cultures and X-rays were normal. The patient did well, but during the next two days postpartum she started to complain of palpitations. The ectopic ventricular rhythm was observed in the cardiac monitor. At times it would disappear spontaneously or after exertion. Administration of atropine and oral Pro-Banthine failed to curtail the ectopic ventricular rhythm. Three days after delivery she was discharged on procainamide 2.5 gm per day. Between September 1971 and April 1972, procainamide was tapered down and subsequently discontinued. Frequent electrocardiograms revealed normal sinus rhythm (Figure 6). In August 1972 the patient moved to another area. She was asymptomatic and had been off medications for several months.

Case 2

This 17-year old female was first seen at the Maternal and Infant Care Clinic (MIC) of the University Hospital on 5-10-71 during her 23rd. week of gestation, after having been transferred from the Local Health Center Clinic. Her chief complaint was shortness of breath.

The patient stated that since early pregnancy she had

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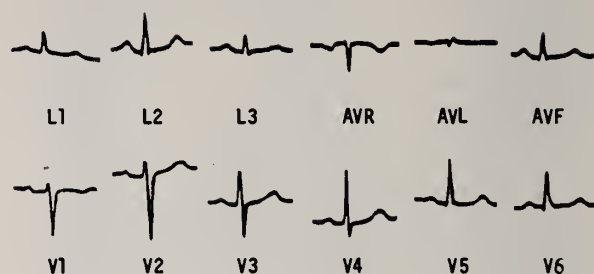


Figure 6. Case 1. August 1972, normal ECG tracing 2 months after procainamide was discontinued.

suffered "palpitations" and a sensation of "fast pounding" of her heart, accompanied by shortness of breath and chest pain. There was also a history of dizzy spells. She denied any history of arthralgias or joint swelling. Her LMP was on 12-1-70 and her EDC was 9-18-71. The past history was non-contributory. Her menarche occurred at age 14 years. The menstrual periods were regular and of 9-10-days duration. The patient had been married for 8 months. The family history revealed the presence of controlled hypertension in a grandmother.

The physical examination revealed a blood pressure of 90/60 mm Hg. and a pulse rate of 102 per minute. There was slight hyperemia of the oropharynx. The chest was clear to percussion and auscultation. The cardiovascular findings were as follows: The arterial pulsations were regular and equal bilaterally in the extremities. The point of maximum impulse was palpated in the 5th intercostal space at the midclavicular line. There was a grade 1/3 systolic murmur best heard in the 2nd. and 3rd. intercostal spaces at the left sternal border. The uterus was palpated at the umbilicus, with no other organomegaly. The genitalia were normal for this stage of pregnancy. The extremities did not show cyanosis, edema nor clubbing.

The laboratory work-up was as follows: normal CBC; urinalysis-within normal limits; BUN-12 mg. percent; VDRL non-reactive; SGOT-55 units; SGPT-28 units; LDH-765 units; creatinine-0.7 mg. percent; serum electrolytes in mEq./L - Na-136, K-4.0, Cl - 100, CO₂-16; the sedimentation rate was 26 mm per hour (corrected - 12mm); ASO titer - 50 Todd units; CRP-neg.; the 2-hours post-prandial blood glucose was 52 mg percent; throat culture demonstrated Paracolon, aerobacter and alpha viridans. The chest X-ray (with fetal protection) was essentially negative (Figure 7). A series of electrocardiograms were performed, and interpreted as, accelerated idioventricular rhythm with retrograde atrial conduction (Figures 8 - 9).

On admission to the hospital she was placed at bed rest and given a 2 grams sodium diet and multivitamins. Digitalization was begun slowly, as she was tolerating the arrhythmia well, hemodynamically (Figures 10, A, B, C). On 5-18-71 she was discharged home, to be followed on a weekly basis at the



Figure 7. (A, B) X-Ray chest A P and lateral position did not reveal any evidence of cardiomegaly, pleural effusions, pulmonary venous congestions or infiltrates.

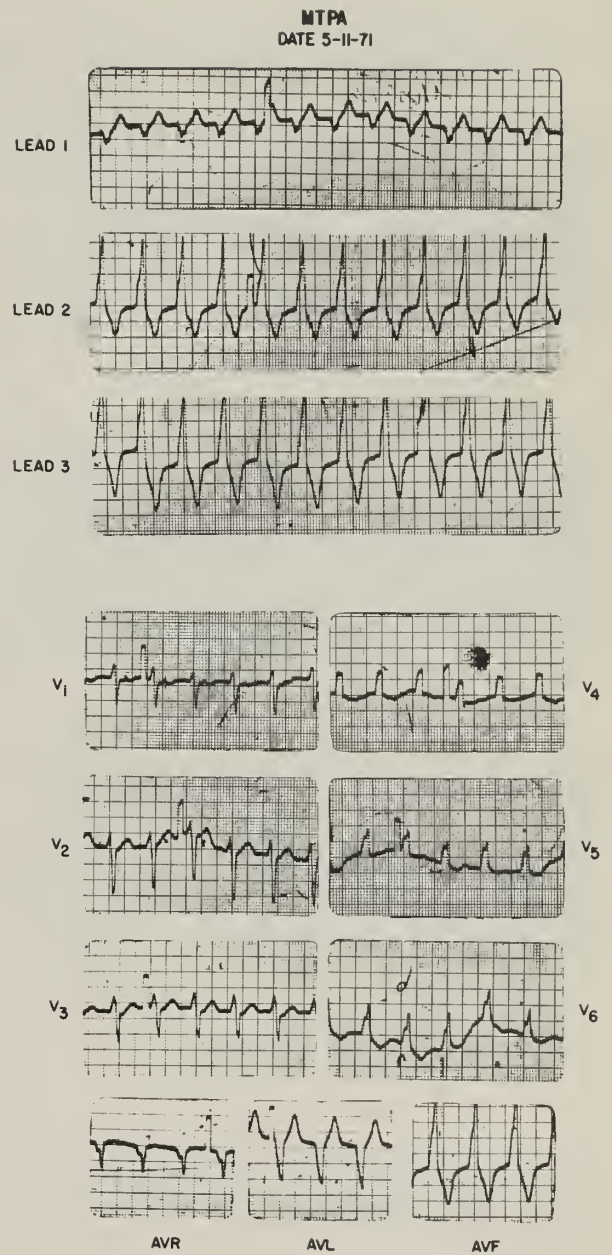


Figure 8. (A) Electrocardiogram on admission showing accelerated idioventricular rhythm with retrograde atrial conduction at a rate 100 beats per minute.

Cardiovascular Clinic of the MIC Project. Her follow-up course was uneventful, and on 10-5-71 she was admitted in labor with uterine contractions occurring every 6 minutes and lasting 30 seconds. At 10:50 AM of that same day, she delivered a living female infant (vertex presentation and O P position) weighing 6 lbs. and 2 oz. The labor and postpartum period were uneventful, and she was discharged on 10-13-71 to be followed in the Cardiovascular Clinic of the MIC Project. Two weeks

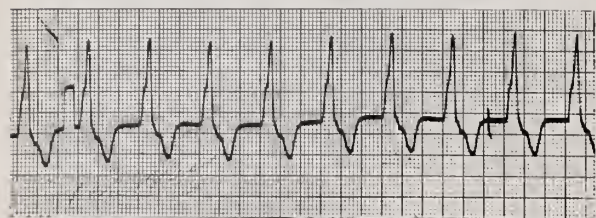
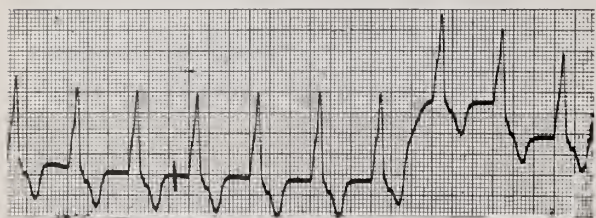
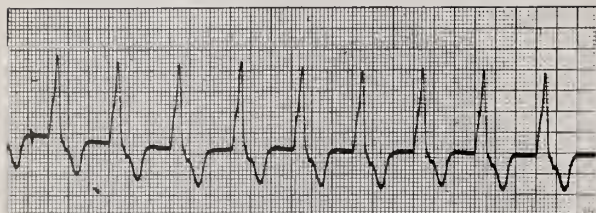
LEAD II
CONTINUOUS STRIP

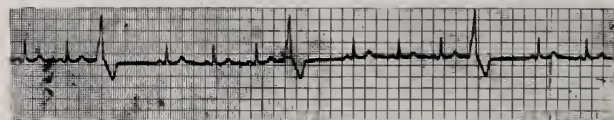
Figure 9. Continuous Lead II showing rate of 100 beats per minute of accelerated idioventricular rhythm.

after discharge she was asymptomatic and her cardiac rhythm was normal sinus (Figure 11). Subsequently, she has been followed at the University Hospital Cardiac Clinic and has had a normal SMA-12, chest X-ray, and sinus rhythm on the electrocardiogram.

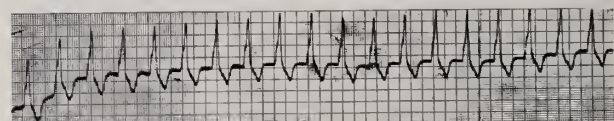
Discussion

Feldman and Hill (11) were probably the first that reported ECG studies in pregnant women. Among 36 patients studied one patient had frequent premature ventricular contractions and runs of ventricular tachycardia. Since then, others have reported a variety of rhythm disturbances during pregnancy (12, 13, 14). Most of the arrhythmias reported were premature ventricular and supraventricular contractions and pa-

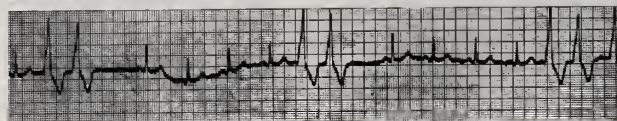
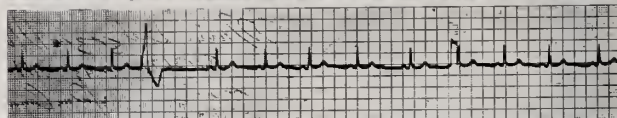
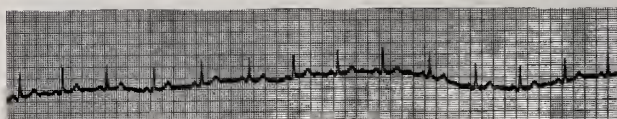
CONTINUOUS LEAD II TAKEN AFTER DIGITALIZATION 5/11/71 AM



LEAD II TAKEN ON 5/12/71 PM



LEADS TAKEN DURING 5/13/71 AM and PM



LEAD II 5/17/71 AM and PM

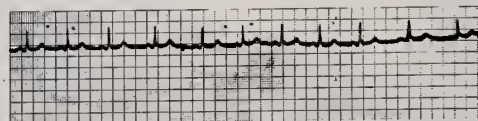
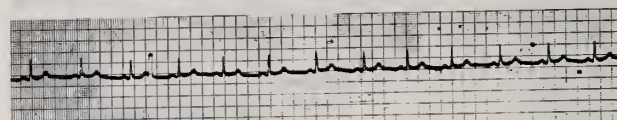
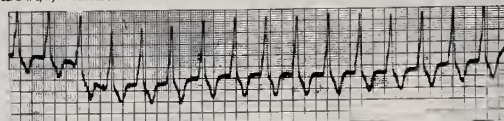


Figure 10. (A) (B) (C) (Case 2) Continuous Lead II done from 5-11-71 to 5-17-71 after digitalization showing accelerated idioventricular rhythm alternating with sinus normal rhythm and episodes of multiple premature ventricular beats.

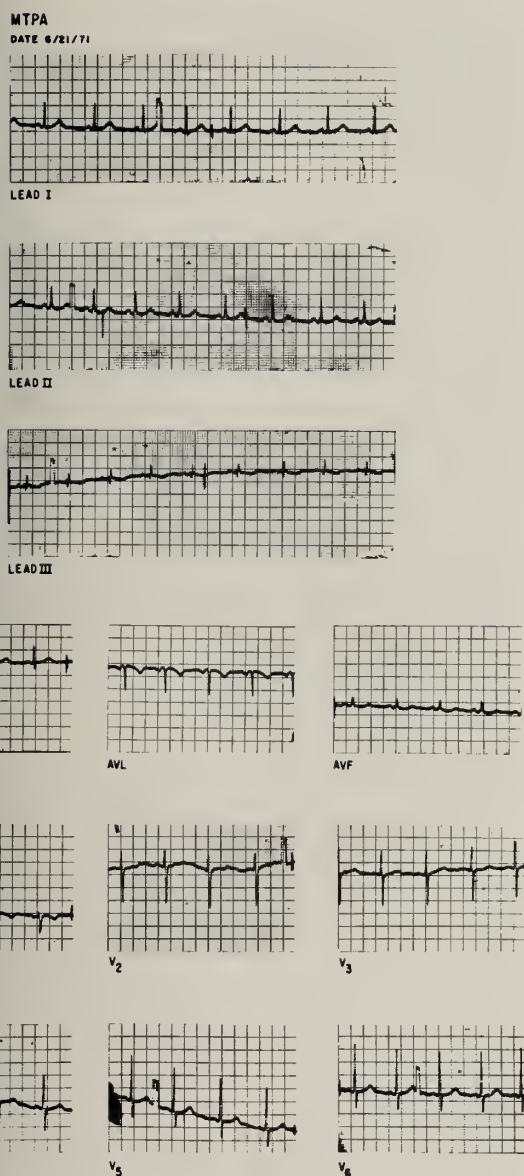


Figure 11. Case 2. Electrocardiogram taken on 6-21-71 showing sinus normal at a rate of 88 minutes.

roxysms of supraventricular tachycardias with or without aberrant ventricular conduction. From these reports it seems that although rare, ventricular tachycardia is occasionally encountered in pregnant women with or without heart disease.

The distinction of the various ectopic ventricular rhythms is important particularly during pregnancy because of differences regarding clinical background,

mode of production, prognosis and management. Ectopic ventricular rhythms can be classified into at least three types; extrasystolic, parasystolic and idioventricular (5, 10). Extrasystolic ventricular tachycardia is a term applied to three or more consecutive ectopic ventricular beats (15) at a rate that ranges between 130 to 180 beats per minute (16). It can be either sustained or intermittent, unifocal or multifocal. It is characterized by a fixed or constant coupling interval, i.e., the interval between the first extrasystolic beat and the preceding sinus beat is usually constant for all unifocal extrasystoles in the same recording (5). This indicates that the extrasystolic discharge is in some way associated with, dependent upon or precipitated by the preceding sinus beat. The two prevailing concepts of this relationship are the re-entry theory and the theory of ectopic enhancement (16). Parasystolic ventricular tachycardia is a succession of ventricular extrasystoles with the following electrocardiographic manifestations (16); varying coupling intervals and interectopic intervals between the paroxysm occur in simple multiples of the ectopic cycle length. (The ectopic cycle length is defined as the interval between two consecutive ectopic beats without any intervening sinus beat). The ectopic pacemaker discharges uninterruptedly but is only manifested intermittently because of exit block (16). It bears no relationship to the preceding sinus beat, (varying coupling interval) and is at all times protected from the influences of the sinus rhythm. Idioventricular tachycardia (accelerated idioventricular rhythm) is the expression of an accelerated rhythm, an enhancement of the inherent automaticity of a latent or potential idioventricular pacemaker. The rhythm usually becomes manifested when its rate exceeds that of the sinus pacemaker, as during the slow phase of sinus arrhythmia or during sinus bradycardia. Massumi *et al* (6) have shown that AIVR could emerge with a premature ventricular beat of the same configuration and after a post extrasystolic pause without slowing of the basic sinus rhythm prevailing at the time of the extrasystole. In some cases more than one mechanism is involved, in others the ectopic ventricular rhythm appears through a series of fusion beats in the absence of any of the above mechanisms (Figures 3 and 4).

The diagnosis of AIVR is based on the following electrocardiographic criteria (16) (Figure 12):

A. Establishment of a ventricular origin

Accelerated idioventricular rhythm (AIVR) must be differentiated from accelerated junctional rhythm (A-V nodal) with aberrant conduction due to delay or block

ELECTROCARDIOGRAPHIC CRITERIA FOR THE DIAGNOSIS OF ACCELERATED IDIOVENTRICULAR RHYTHM

1. Establishment of a ventricular origin
2. Presence of an accelerated idioventricular rate
3. A-V dissociation
4. Absence of pacemaker protection

Figure 12

within the ventricular conduction pathways (5, 17). Conduction disturbances of supraventricular impulses have also been noted in conjunction with lower heart rates and prolongation of the R-R cycle preceding the onset of the arrhythmia (18). The most reliable electrocardiographic criteria of an active ventricular pacemaker is the presence of fusion beats (incomplete capture), resulting from the simultaneous activation of the ventricles by both supraventricular and ventricular impulses. However, the significance of fusion beats has been questioned since it has been demonstrated that although rare, it is possible for fusion to occur between two supraventricular impulses if one of them descends through the usual pathway and the other arises in the A-V junction travels by paraspecific fibers and enters the ventricles (10, 19). By utilizing His bundle recordings Gallagher *et al* (10) showed that rhythms similar to the ones presented in this report (which satisfied the criteria for accelerated idioventricular rhythm) were of ventricular origin. The ventricular depolarization resulting from the ectopic ventricular focus were not preceded by His bundle deflection. When fusion beats occurred, His bundle deflections preceded ventricular depolarization with varying H-V intervals. Another criteria to differentiate AIVR from accelerated junctional rhythm with aberrant ventricular conduction is the normal contour of the captured beats, (complete capture) similar to the contour of the sinus beats. When a ventricular capture beat occurs during accelerated junctional rhythm with aberrant ventricular conduction, the resultant QRS complex will have the same contour as the QRS complexes of the junctional rhythm. This is so because the conduction of the capturing sinus impulse must with rare exceptions, follow the same pathways as the aberrant junctional impulses (16).

B. Presence of an accelerated idioventricular rate

The normal idioventricular rate rarely exceeds 40 beats/minute. Accelerated idioventricular rhythm has been arbitrarily defined as an idioventricular rate greater than 55/minute (5). The rate in the cases reported has varied from 55 to 110 beats/minute (5, 6, 8, 10, 16).

C. Propensity to A-V dissociation

The rate of the ectopic ventricular pacemaker is equal or in the same rate range as that of the sinus rhythm. The proximity of the two rates is a central feature of the arrhythmia accounting for its intermittent or nonparoxysmal appearance and the frequent occurrence of A-V dissociation, incomplete and complete capture beats (6, 16). The benign nature of this rhythm is due primarily to the isorhythmic discharge rate which makes paroxysmal emergence in the vulnerable period of the preceding beat unlikely (6). As shown in our cases, this rhythm recurred several times at different rates, always keeping pace with the dominant sinus rate suggesting that the proximity of the dominant and ectopic rhythm was not purely coincidental (6).

D. Absence of pacemaker protection

The absence of protection of the ectopic pacemaker in AIVR is evident from the dislocation of the ectopic rhythm by a complete capture beat. The ectopic cycle must begin again from the moment of ventricular capture (16). In parasystolic ventricular tachycardia, a capture beat is always incomplete and the ectopic rhythm continues regularly and uninterrupted because the ectopic focus enjoys protection from the sinus rhythm. Norris *et al* (20) reported one case of AIVR in a patient with an acute myocardial infarction that was followed a few hours later by an episode of ventricular parasystole; the parasystolic beats being of the same contour as the AIVR beats. This observation

suggests that in a particular patient different electrophysiologic mechanisms may give rise to different ectopic ventricular rhythms originating from the same or nearby ventricular focus.

This idioventricular origin of the ectopic rhythm in these cases cannot be questioned because 1) it meets the criteria for the diagnosis of AIVR and 2) aberrant ventricular conduction of a supraventricular rhythm cannot be supported on the basis of shortened coupling interval between the first ectopic beat and the preceding normal beat or by lengthening of the preceding R-R cycle. The clinical significance of this rhythm in the cases presented is not known. AIVR has been documented in digitalis intoxication (5, 6, 10), acute myo-

cardial infarction (8, 9), myocardiopathies (6) as well as in patients with no evidence of heart disease (6, 10). In case 1 it could have been the only manifestation of carditis precipitated by the complex circulatory changes of pregnancy, i.e., increased cardiac output, rate and blood volume.

Based on the experience of others, patients with AIVR should not be treated with cardiosuppressive drugs (5, 6, 16). It is not a premature event, has not been associated with rapid ventricular rates and is unlikely to fall in the vulnerable period and progress to ventricular fibrillation. AIVR is usually an expression of an underlying condition in which the rhythm itself does not require any active treatment since it rarely causes hemodynamic deterioration. On the other hand, De Sanctis *et al* (21) have reported AIVR complicated by premature beats from the same or different ventricular focus degenerating into extrasystolic ventricular tachycardia and sudden hemodynamic decompensation. In most of the cases reported, AIVR was characterized by paroxysms of less than 30 beats occurring as a transient arrhythmia nearly always within 24-48 hours after acute myocardial infarction (9). In cases of digitalis toxicity (6), the ectopic rhythm disappears shortly after digitalis is discontinued (5, 10). In reviewing the literature we were not able to find a case of AIVR that lasted intermittently for over 20 months. In one of the cases presented the rhythm was suppressed with procainamide because the complaint of palpitation, the chronicity of the rhythm and to avoid during pregnancy the potential complication reported by De Sanctis (21) with its deleterious consequences.

In view of the previous experiences treatment of AIVR should be instituted under the following circumstances (Figure 13): 1) Loss of atrial function during A-V dissociation with significant detrimental hemodynamic deterioration (16). The ectopic ventricular rhythm may be overdriven by accelerating the sinus rate with atropine, 2) Hemodynamic deterioration due to fast ventricular rates (16), 3) Presence of premature beats from the same ventricular focus as the ectopic rhythm or from a different focus, degenerating into extrasystolic ventricular tachycardia (21), 4) Intermittent but prolonged and chronic paroxysms of AIVR accompanied by clinical symptoms.

Summary

Accelerated idioventricular rhythm (AIVR) developed in two pregnant patients. We discussed the electro-

Indications For Treatment Of Accelerated Idioventricular Rhythm

1. Hemodynamic deterioration due to loss of atrial function during A-V dissociation.
2. Hemodynamic deterioration due to fast ventricular rates.
3. Presence of premature ventricular beats from the same ventricular focus as the ectopic rhythm or from a different focus, degenerating into extrasystolic ventricular tachycardia.
4. Chronic but intermittent paroxysms of accelerated idioventricular rhythm for prolonged periods of time accompanied by clinical symptoms.

Figure 13

cardiographic criteria for diagnosis. The clinical significance of this rhythm in the case presented is not known.

AIVR has been documented in digitalis intoxication, acute myocardial infarction, myocardiopathies as well as in patients with no evidence of heart disease. In case 1 it could have been the manifestation of carditis precipitated by the complex circulatory changes of pregnancy.

In view of the previous experiences, treatment of AIVR should be instituted under the following circumstances: 1) Loss of atrial function during AV dissociation with significant detrimental hemodynamic deterioration, 2) Hemodynamic deterioration due to fast ventricular rates, 3) Presence of premature heart beats from the same ventricular focus as the ectopic rhythm or from a different focus, degenerating into extrasystolic tachycardia, 4) Intermittent but prolonged and chronic paroxysms of AIVR accompanied by symptoms.

Resumen

Presentamos 2 casos de ritmo acelerado idioventricular durante el embarazo y se discuten los criterios electrocardiográficos para el diagnóstico. Se desconoce el significado clínico de esta arritmia en los casos presentados, aunque en uno de ellos, pudo haber sido la única manifestación clínica de carditis precipitada por los complejos cambios hemodinámicos durante el embarazo.

En vista de las experiencias clínicas reportadas en la literatura, la arritmia debe ser tratada durante las siguientes circunstancias: En presencia de 1) Deterioro hemodinámico debido a la pérdida de la función anri-

cular durante la disociación atrio-ventricular, 2) En presencia de deterioro hemodinámico debido a ritmos ventriculares rápidos, 3) Las contracciones ventriculares prematuras originándose del mismo foco que el ritmo ventricular acelerado, decentran en taquicardia ventricular extrasistólica, 4) En Paroxysmas crónicos pero intermitentes acompañados de sintomatología clínica.

Acknowledgment

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THE ROLE OF THE PHYSICIAN IN THE SEXUAL RE-EDUCATION OR ENLIGHTMENT OF THE ADULT

Víctor Bernal y del Rífo, MD

It is part and parcel of our inheritance as physicians that many children usually male, are brought to us for "the facts of life." Our half-forgotten knowledge of a new anatomical facts and up to recently non-existent physiological data do not represent a sound criteria for sexual enlightenment, but it befalls most practitioners to give a lecture on anatomical peculiarities with a mention of gonorrhea and syphilis, and let it go at that.

The curriculae of medical schools continues to be artfully lacking at all levels to prepare physicians for such a task that continues to be discharged lightly with no real harm done to any of the groups involved. Neither the physician after numerous such visits gets more enlightenment nor do the male teen agers.

It is another story with the female teen agers who, according to society, must wait until their wedding when mother tells them all that there is to know. This they do not do fortunately, and in spite of this life goes on. *The female is more capable of performance than the male.* Not haunted by the difficulties and vicissitudes of erection she is prepared to deal more openly and directly with sex as such. The fallacy of the opposite opinion survives and dominates the world. It has been expounded repeatedly and infused by every means of communication. All forms of literature, poetry, drama, novels, even the most avant-garde left bank movies present the heroine as incapable of polyheterosexual behavior whereas the male is placed in the uppermost of the totem of multiple priapic enterprise.

As the processes of correcting this state of affairs seems to me too arduous and as it is an assigned task any way we may still brush it aside as our forerunners have done.

But, another story is when in dealings with our patients as practitioners of physical medicine, we must come inevitably face to face with the functioning adult-functioning in the adult incoude sexual functioning. *The adult in sex continues to be in a dynamic process of development and as such should be helped.*

The present adult is the result of such a long history, so many interferences, etc., that the unending amazement is not that we find inhibitions and pathology but that we find functioning orgasmic human beings. It is almost miraculous. In these particulars, adulthood is not to be seen as a finality, a total achievement or an established capacity, but should be considered as a continuation in the development, with stages proper to itself. And the process should be considered as never ending; formally concluded or fully automated, etc. We should look upon our adults no matter their stage in life - as capable of attaining better and more complete usage of their tools; enhancing their capacities and achieving a total mastering of their endowments.

The magazine section of The New York Times - Sunday edition - several weeks ago, contained an article on sexual education. Most of the family magazines now and then exhibit on their covers a title announcing an article on "sex-education" - apparently this helps to increase the circulation. After thumbing through such articles, and reading some of them, it is evident that what is presented as sexual education is really information about menstruation and procreation. All "education" in the articles usually start after the sperm is in the vaginal cavity. Such "information" make adults the laughing stock of their children when talking about sex. Procreation is a small part. Sexual behavior is orgasmic behavior, and thus to talk about sex is to talk about orgasm. We will use in this paper the term sexual as referring to orgasmic and interchangeably so.

An almost unsurmountable problem in dealing with the subject of sex in the adult is the problem of lan-

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guage; the difficulties of which cover a great range. What really is the different sex has been called the *opposite* sex - this semantic confusion has made common place of a host of misconceptions; opposition rather than complementation; to envy, rather than desire; to the permanent position of - opposition rather than apposition, as it should be. I am often assailed by the common saying of most women referring to open approaches toward an event of orgasmic nature, even when lawfully sanctioned as in matrimony - they refer to it as "siempre se me acerca con malas intenciones" (he always approaches me with dubious intentions) - when they seem to be really the best intentions in the world.

It is not lack of precision in the language, nor is it the usual difficulty of semantic nuances, differences in definitions, propriety of, etc., where the confusion lies. The language of orgasmic behavior is definitely clear, understandable and direct. The most intricate and complicated orgasmic transactions are done in an instant. It is not clarity that is lacking. The problem of language lies at another level.

Words have intellectual meanings and emotional meanings - they evoke data of a technical quality but they also evoke emotions. Words pertaining to sex evoke in the user and the listener about the strongest emotions of which the human being is capable. Not only the excitement produced by the evocations but all the fears, guilt, fantasies, etc. to which mankind has subjected this segment of human behavior.

To develop a language is not enough. To develop the capacity to use any language is the core of the matter. Technical terms may be of some help but they are usually less clear, surprisingly enough. In bi-linguality the usage of the later acquired languages for sex education surmounts some of the difficulties of emotional involvement. In talking about sex the echo of the listeners history resounds so loud that many times it supersedes the expressed material. I want to stress at this point that sexual behavior is private behavior and thus, sexual education enlightenment or exploration should be a private process.

The Questions of Experts:

Who, will you ask, is an expert in the field of orgasmic behavior? Everybody? Anybody? Why are we here today as experts? How do you become an expert?

Number One - By experience? Certainly not.

It is imaginable that celibate practitioners or practitioners of celibacy could be good counsellors in sexual

matters devoid of personal reactions. An expert should indeed possess the capacity to leave aside his experience when dealing with sex.

Number Two - By observation? I repeat myself - sexual behavior is a private behavior.

Number Three - By reading and studying? Orgasmic misinformation or miseducation is so rampant that in these matters a separation between true scientific knowledge and myth is difficult to discern. Even very careful students of the subject are carried away, and tenets of doubtful scientific validity are adhered to and quoted as absolute law. The publishing of attempts to study statistically, orgasmic behavior by Kinsey and more physiologically by Masters and Johnson recently, poses more problems than solutions especially in sampling and collection of data. The comparison of sexual behavior between different stratas of society or between different cultures, or epochs present even more of the same difficulty. I must specially stress against extrapolation from the animal kingdom.

My own guess would be - that you become an expert, by listening in a particular situation. Namely - under strictly privileged circumstances the person, spurred by the reward of health, is capable of candid exposition which should be listened to with an ear devoid of gross limitations by inhibitions. The study of dreams, myths and folklore helps. The physician, although not particularly versed of enlightened has a position in society guarded by the privacy of communication which is ideal. His professional tradition gives him an advantage that cannot be overlooked. That is why it is so important that a re-education of the physician takes place and by his recognition of inhibitions, fears and guilt his capacities are furthered. It is usually gynecologists, obstetricians, and urologists who encounter in their practices most of the sexual pathologies but is the general practitioner, the internist, the surgeon and any one dealing with health who should be called upon continuously to invade the privacy of orgasmic behavior.

Discoveries during the last decade have changed the man made environment pertaining to sex. The conquering of venereal disease, the discovery, the acceptance and usage of safe easy contraceptive devices have produced changes of ecological importance. Whether the generations that were brought up with the reality factor of venereal disease and fears of pregnancy are capable of relieving themselves of these burdens is left to be seen. When dealing with the younger generation devoid of such incapacitating burdens we are in a difficult situation. The young, when submitted

to harangues and counselling can easily send the adult back for re-indoctrination. It has been voiced by the more verbal of the young that they feel we do not understand them.

Leaving aside pathological manifestations of sex which are not our concern today, we have to consider coition or cohabitation the matrix of orgasmic behavior. Centrally we will be dealing with standards of coital patterns, and the orgasmic pleasure pair. The concept of an orgasmic pleasure scheme is considerably enlarged through contributions derived from extragenital sources.

In the standard coital pattern, internal stimulation establishes receptivity to psychological stimulation; arousal can be sensory, visual, tactile, etc., or intellectual whether by reading poetry, talking about literature, gossiping, looking at paintings, dancing Rock or listening to Bach or Bartok. In both mates, this sets up a sexual motive state which mobilizes and organizes all the sources for orgasmic pleasure. In both mates, this elicits automatic responses of preparedness; at a sensory level, mechanisms of memory and wishful thought; at a motor level encouragement and erection of erectile structures; at a glandular level, secretion of vehicular and lubricating fluids.

Wooing and securing consent takes place followed by foreplay, with mutual stimulation of responsive extragenital regions.

A rising of impetus to penetrate, in the male, is attended by the rising of the desire to be penetrated, in the female. Intramural play, orgasm, heightened pride, and desire to sleep complete our concept of the standard coital pattern.

It seems evident that there is a copious avalanche of literature including nudes, films, descriptions, etc., which is being used more and more frequently to collaborate and perhaps to supplement and help in orgasmic behavior.

The fact that some of the so called good pornographic literature in spite of coming up out of the underground is still sought with the same fruition is a matter for consideration.

Sex has been used lately to sell about every gadget around.

Yet at present sex literature is being advertised and purchased and I hope used to sell sex to its buyers. I distinguish here between Number One - what can be ascertained by observation of any magazine stand or bookstore and that can be corroborated by statistical analysis of sales; and Number Two - the usage to which it is put - which is more hypothetical and theoretical.

All this points a thick index finger at the medical

profession in its dealing with this part of the health of mankind.

With exception made of orgasm, erection in the male and the concomitant vaginal lubrication and engorgement in the female, sexual behavior is learned behavior and thus not static but capable of change, education, re-training, cajoling and above all it can be encouraged, fertilized and cultivated.

And yet, most of the time medical incursions in sexual matters in the adult amount to a continuum of prohibitions.

There is hardly a single illness in which at one time or another one or another physician has not added to his therapeutic armamentarium on orgasmic prohibition. There is also hardly any known condition that scientifically merits such total prohibitions. Prohibitions in pregnancy, during the first three months because of abortion; during the last three months because of incommodity. During lactation, menstruation, surgery, cardiac conditions, etc., etc., etc., prohibition seem to be part and parcel of any illness. Exposition to it is never forgotten. Yet the ascertaining of the opposite, that no damage may result from orgasmic practice is rarely verbalized.

Couples with banned orgasmic behavior are rarely advised when such banned practices may be reassumed. I want to warn my colleagues that in the same way that orders for barbiturates or morphine, etc., have to be reissued, in their contact with patients when a coital prohibition is necessary, never to forget to express openly in effect and on time the permission to reassume normal practices - remove the prohibition and even encourage; otherwise patients zealous of their physical health or misinformed and inhibited will not dare to relinquish the physician's order expressed. They will tend to reinforce their inhibitions and hide behind the physician's immense shadow. The question of frequency - positions, timing, etc., can be ascertained at this point and the physician may as well at such opportunities encourage patients to proceed to a total sexual inventory. Such inventories of orgasmic behavior might one day be carried out at special sexual clinics in which both mates may be seen separately or combined. But at present, the opportunity is golden with the practitioner of medicine. All routine physicals should include an inventory of the couples sexual performance since the last check up. This has to be encouraged by the physician as spontaneity in this realm is lacking. Such exploration has to be actively initiated as expressed in a question of a colleague of mine who says: "Besides normal, how is your sexual

behavior? ”

Such explorations should include bedding arrangements, double or single bed, night rituals, baths, reading in bed, encouraging the children to sleep with the couple, nightgowns, pajamas, nudity, sex in the daylight, lights, manipulations, timing, stimulation of extragenital areas, rapidity, size, etc., etc., etc.

It is also the physicians responsibility to correct misinformation and appease guilt and reduce rationalization.

Beware of those comparisons or extrapolations from the animal kingdom.

It is our responsibility to look towards the protection in every conceivable manner of the coital pattern behavior, and for the maintenance of the orgasmic sexual pair. Instead what do we do? We prohibit, prohibit and prohibit.

The fallacy of danger to structures through orgasmic behavior, the fallacy of size, of incompatibility, of looking upon orgasmic pleasure as a set quantity that has been put in a sort of a bank and which has to be withdrawn slowly, carefully with the ever present danger of running in the red or overdrawing your account must be destroyed by reassurance. Orgasmic pleasure should not be seen as a set limited quantity or in any way as a prize or a gift.

In some couples the ideas of sexual marathons at vacation resorts has to be watched for.

In the assessment of the use of their orgasmic endowment special care should be taken when dealing with the scheduling.

Present social customs have indirectly produced automated scheduled sexual practices of the worst kind. Most orgasmic behavior in our society especially amongst our peers goes on after long work days followed by drawn-out social evenings that include lots of food, alcohol and tobacco. These social events are drawn-out to early hours of the morning at which time you have an exhausted couple trying to indulge in orgasmic behavior. The limitations to this automated scheduling are so multiple by themselves that couples must be helped to regain their natural strivings. Such as: 1. done by encouraging actual conscious, conscious, mutual, direct, verbal scheduling. So much time, money and effort is spent in the indirect pursuit of love, sex and orgasm, and yet, the direct pursuit, the unabashed dealing with the subject is frowned upon at all levels of society and is declared immoral, dirty, etc. Orgasmic behavior has been assigned but a few minutes of our busy week. The true scheduling of orgasmic behavior should be encouraged. Many couples

tend to believe that desire and sexual practices should be “natural”. They keep waiting to be overpowered by such desires and their orgasmic behavior go into a stalemate with prolonged sexual abstinencies. Increase in the span in time between cohabitation should be looked upon carefully and should be followed by orgasmic tune-ups, sexual overhaul, etc.

Sex in the human can be rationally enhanced. The time assigned to sexual behavior tends to be just the time of the behavior and sexual planning, preparing, and arranging is considered TABU.

It is all right to spend copious hours in planning a party, a surprise gift, a week-end away but preparation for a thalamic banquet are considered unnatural.

From time to time couples should be encouraged to proceed to their own inventory of their orgasmic behavior. You cannot leave it to the natural forces. Increasing dependency on a statuted pattern and monotony should also be investigated. Sexual dietetics, spicing, allurements, and gastronomy should be encouraged. Most members of a couple are usually aware of the minutest details in their mates referring to many areas of behavior. She knows how he likes his coffee, his steaks, what amount of starch in his shirts. He knows her favorite color, flowers, perfume, etc., and yet both are unduly uninformed and unhappily surprised when asked how the opposite partner prefers to be caressed, kissed or cajoled.

Patterns of arousal are a strange phenomena. Popular pseudo-knowledge of general patterns of arousal make the core of jokes, graffiti and adolescent conversation. Usually the individual has a clear view of what he thinks is the pattern of arousal of his mate, and yet, when in honest introspection the question arises as to our own conscious ideas of our patterns of arousal we are really astounded even at the question.

Orgasm is so private and unique that it is doubtful whether it can be recollected; even people under psychoanalytic treatment are surprised when confronted with some of the conscious unawares, beliefs, nuances of practice and desire. This privacy is really never broken. It seems to be necessary for the maintenance of the homeostasis. Couples should be advised that although exchange of ideas about sex between partners should be open, frequent and desirable, a certain amount of privacy will and should always prevail.

The fallacy of monogamy at the levels of desire or fantasy including flirtation should not be confused with the reality of monogamous behavior and practice.

Couples should be advised to be candid but not shattering.

In "confessions" benevolence should prevail rather than rage contempt and vindictiveness.

I do not want to sound as if I am blaming on medical practices all the ingrained prohibitions existent regarding sex. I am not that naive and we are not that powerful. Prohibitions are a necessary part of the process of civilization and of our cultural heritage. They are very early instilled probably starting with the wearing of our first diaper. Most of the prohibitions are already part of the superego and thus are unconscious or automatized. The fears have to be considered as the representation of the unconscious guilt, rationalization of fixations happened at an early age. Some fears

like the fear of post-prandial coitus with the fantasy of death in cohabitation has appeared in every one of my analysands. To disperse with them is a matter of analytic treatment. I do not expect that a few interviews with a physician will solve all the problems. In the twilight of civilization, medicine man, or however, he was called, was probably instrumental or an ally in the instillation of these fears, guilts and prohibitions. That was his job. The enlightenment physician of 1973 cannot continue to behave as primitive medicine man; he must relinquish his alliance with the superego and start to get closer to the forces of the id - with such allies, victory is certain.

LA NEUROLOGIA EN LA MEDICINA INDUSTRIAL

Juan Rodríguez del Valle, MD

La neurología clínica tiene una gran responsabilidad en la medicina industrial. Su importancia no solamente se basa en el tratamiento de obreros lesionados, sino, que ha venido a jugar un papel importante en las decisiones de determinación de incapacidad. Por ser esta una especialidad en la cual confluyen la medicina orgánica y la funcional, son a veces sus decisiones tema de discusión.

He podido observar que el número mayor de pacientes que llegan en consulta tienen algo en común. Este común denominador es el dolor, que siempre está presente cuando hay discrepancia entre los colegas evaluadores del Fondo del Seguro del Estado y de la Comisión Industrial. El problema surge ya sea con el diagnóstico, con la relación causal o la compensabilidad.

El dolor es un síntoma subjetivo que no puede medirse con los métodos que utilizamos en el presente. Cada individuo tiene una capacidad diferente de tolerancia al dolor. La tolerancia variará de acuerdo principalmente, al estado emotivo de la persona.

Podemos hacer una división de los cuadros dolorosos en tres grandes grupos:

1. Los debidos a síntomas post trauma craneal.
2. Los debidos a lesión de la columna vertebral.
3. Los debidos a lesión en los nervios periféricos.

Los traumas craneales son muy frecuentes en la medicina industrial. Pueden o no dejar secuelas de dolor de acuerdo a la constitución orgánica y emocional del lesionado.

Por estar envuelta una compensabilidad económica a la cual creen tener derecho estos lesionados, cada día se hace más difícil el ser justo en aquellos lesionados que sí lo merecen. Los dolores de cabeza casi siempre se presentan asociados a mareos o como lo describen los lesionados, como un desbalance, la vista borrosa y trastornos nerviosos. Estos lesionados apelan porque el dolor asociado a los síntomas arriba enumerados le impiden llevar a cabo su trabajo con normalidad. Por ser estos síntomas subjetivos tenemos que poner mucho cuidado en su evaluación.

Nuestro examen estará enfocado primeramente, en conocer la forma del accidente. Esto nos dará idea de la intensidad del trauma, si provocó movimientos bruscos del cuello y si al recibir el trauma en la cabeza, desarrolló algún estado de inconsciencia. En ocasiones queda un estado doloroso de los músculos del cuello debido al movimiento de aceleración y desaceleración durante el accidente.

Otro dato importante que tenemos que analizar es la pérdida del conocimiento. Qué tiempo transcurrió o si simplemente quedó aturdido. A todo paciente que recibe un trauma craneano y más si pierde el conocimiento, como regla general, se le debe practicar un electroencefalograma. Este estudio se le debe practicar durante los primeros tres meses del accidente y aproximadamente ocho meses después. El ser normal o anormal no importará para que sea repetido este estudio meses después. ¿Por qué debe hacerse en esa forma? Al recibir el cerebro el impacto, éste puede lesionarse produciéndose primeramente sólo un edema. Este edema puede o no manifestarse eléctricamente en el trazado electroencefalográfico en los primeros meses, mientras tanto en el cerebro puede estar formándose una cicatriz. No es hasta pasado ocho meses que esta cicatriz pueda dar manifestaciones eléctricas y manifestarse en el electroencefalograma.

Es por esta razón que siempre aconsejo repetir el electroencefalograma a los pacientes que previamente se le ha practicado este estudio. Esto nos dará una medida de base orgánica en lo que cabe con nuestros medios, de medir la intensidad y el daño que ha sufrido en el cerebro un lesionado durante el trauma. Si el lesionado no ha pasado por este estudio se le debe ordenar con el fin de tener una mejor evaluación de su caso.

Nuestra experiencia es que en la mayoría de los casos no quedan secuelas orgánicas cerebrales palpables, pero como médicos dedicados a buscar la verdad, tenemos que ofrecerle a estos lesionados la oportunidad de una completa evaluación. De esta forma, hemos

cumplido con nuestro deber y hemos sido justos con estos lesionados.

Si no encontramos patología orgánica al terminar la evaluación del accidente, le queda a estos lesionados la oportunidad de recibir una compensación por el síntoma del dolor.

El dolor lo tenemos que diferenciar en: Dolores de cabeza de orígenes vasculares, tensionales o post traumáticos. Los vasculares si son los clásicos pulsátiles con náuseas y vómitos y en un solo lado de la cabeza, podrían fácilmente diferenciarse de los post traumáticos, pero en aquellos dolores de cabeza tipo tensionales se nos hace muy difícil diferenciarlos de los post traumáticos ya que estos pacientes niegan haber padecido de dolores de cabeza con anterioridad.

Después de haber llegado a un diagnóstico con el lesionado, entramos en un problema no médico, pero que en la medicina industrial es de primordial importancia el aspecto médico legal. Al entrar en este aspecto tenemos que tener mucho cuidado ya que en ello está en juego los derechos del lesionado. Médico-legalmente estos lesionados tienen o han desarrollado otros síntomas que están asociados o se asocian al síntoma principal. Estos síntomas pueden ser conscientes o inconscientes pero siempre se relacionan con la compensación económica. Los síntomas nerviosos van desde la vista borrosa, nerviosidad, intranquilidad, insomnio y temblores de las extremidades y el cuerpo.

Esta sintomatología nos llevará a diferenciar varios tipos de sujetos. El primero de ellos son los clásicos litigantes que por el mero hecho de creer que no han sido tratados como creen merecer. Apelan todas las decisiones del Fondo del Seguro del Estado y de la Comisión Industrial.

Estos lesionados siempre encuentran personas que están dispuestas a escucharlos y aparecen ante la opinión pública como víctimas del mal trato de los médicos y del personal del Fondo del Seguro del Estado. Otro grupo incluye a los que se les agrava una condición pre existente de estados mentales, al recibir el trauma.

No teniendo el médico en la mayoría de los casos constancia de su padecimiento y negando premeditadamente el accidentado sus padecimientos, le queda siempre al médico la duda de si el accidente es la causante de sus dolencias.

Es por esa razón que en la actualidad se utilizan mucho las consultas psiquiátricas. Estos especialistas pueden ahondar más en el problema ayudándonos a veces en el diagnóstico final del caso.

En conclusión, todo caso de trauma crancano con síntomas post traumáticos debe ser evaluado neuro-

lógicamente. De esta manera habrá menos oportunidad de engaño en aquellos lesionados que solo buscan una compensación por medios fraudulentos. Podemos de esta manera, ayudar a aquellos lesionados que sí merecen nuestra mayor atención y consideración para que puedan recibir una más justa y razonable compensación.

El otro grupo doloroso que más nos interesa es el de las lesiones de la columna vertebral. La mayoría de estos casos llegan a la consulta con la idea fija de ser diagnosticados de hernias discales. Como sabemos, los síndromes dolorosos de espalda tienen una mayor compensabilidad si se les diagnostican de hernias discales.

En estos lesionados tenemos que diferenciar a los jóvenes de los de edad madura. En los pacientes de edad madura tenemos el problema de que presentan con frecuencia en la columna vertebral más o menos estados de artritis. Lo primero que el médico en el Fondo del Seguro del Estado le ordena cuando llega un accidentado, es tomarle radiografías. En ocasiones estas radiografías revelan enfermedades discogénicas degenerativas con estrechamiento de los espacios intervertebrales.

Esto conlleva en muchas ocasiones confusión en cuanto a diagnóstico y relación causal. En un disco degenerado por artritis no necesariamente tiene que haber una herniación discal. Al paciente en ese momento se le debe explicar que esa condición es un proceso degenerativo. Esto podrá evitar en una pequeña proporción las continuas demandas.

Muchas veces el dolor en estos lesionados es producido por la artritis y no por el accidente en sí. Pero queda una fase muy importante, que es la agravación de su condición. Este problema queda en manos de los médicos evaluadores.

En caso que el nervio esté afectado es al neurólogo que le cabe la responsabilidad de indicar el mecanismo de producción y la gravedad del caso. Tenemos en la medicina clínica varias pruebas que son bastantes objetivas y que nos dan un índice para poder medir el dolor. Estas pruebas son de estiramiento de los nervios y del plexo braquial.

En la actualidad utilizamos con bastante frecuencia las pruebas electromiográficas. Todas estas pruebas son de gran valor si las sabemos utilizar y aplicar a consciencia. Un EMG positivo no necesariamente indica que hay una hernia discal produciendo una neuropatía. La positividad para el neurólogo es una parte de la evaluación total del lesionado.

Otro problema es el de las lesiones de espalda baja. Estas lesiones son un problema para los médicos

evaluadores.

Clásicamente se usan una serie de pruebas conocidas por todos los médicos como son: la prueba de Lassègue y la elevación pasiva de la pierna (straight-leg raising).

Personalmente utilizo una prueba que describí y publiqué en el Boletín de la Asociación Médica de Puerto Rico, en agosto de 1971. Esta prueba me ha sido de gran ayuda, ya que todavía no es conocida por los lesionados. En ella, puedo saber con exactitud si el paciente está tratando de engañarme, al no saber qué respuesta esperamos en cada uno de los movimientos de la prueba. Esta prueba es muy sencilla y puede practicarse en cualquier sitio, lo más importante es que se practica de pie y no hay que acostar al paciente para practicarla. Se ordena al paciente ponerse de pie y extender la pierna afectada hacia adelante a un ángulo aproximadamente de unos 30° apoyándose en la pierna sana, se le ordena luego flexionar dorsalmente el pie de la pierna afectada. Producirá un estiramiento del nervio ciático y ésto le producirá dolor a nivel de la región sacro lumbar.

En pacientes que no padecen de lesiones discales ni tienen irritación del nervio ciático se producirá una sensación de estiramiento de los músculos gemelos de la pierna. La prueba se repetirá en ambas piernas.

El electromiograma también es de gran importancia para saber si hay signo de irritación del nervio ciático, ya sea éste debido a compresión o irritación.

Después de eliminar la posibilidad de una herniación discal debemos evaluar la condición de espalda dolorosa. Lesiones crónicas de las estructuras de la columna vertebral de ligamentos, tendones y músculos. La evaluación debe recaer en médicos especializados en medicina física y rehabilitación. Estos especialistas podrán dar una idea más exacta de la condición del paciente.

Los adelantos médicos no solamente los aplicamos en lograr una curación del paciente, sino, que también tenemos que aplicarlos en hacer justicia. En aquellos lesionados que van en busca de una compensación, nuestra ayuda es de primordial importancia. La neurología clínica es uno de esos puntales.

LA INCELITIS

Raya el alba. . . Don Moncho, el cayeyano cuentista, el del Caballo del Diente de Oro — ¿Hace cuántos años nuevos? — separó la neblina cayeyana y entró a la casa.

TITIRITANDO:

— ¡Ave María, que frío pelú! — dijo. Y seguido, — Oiga, ¿y ya encontraron cura para esa dolama nueva, para la Incelitis? ¡Mire que ya se va el setenta y cuatro! —

— Nueva para mí — le respondí — dígame, ¿qué es eso de la Incelitis?

Le serví coquito con pitrinche, curao con pasas. Me acomodo, preparado para otra de sus historias.

— La Incelitis, — así comenzó Don Moncho, — o la parálisis de Parkinson como la conocen también, la descubrió C. Northcote Parkinson en Singapur para el año 1957. Esta terrible enfermedad existe en Puerto Rico. En varios grados de desarrollo. Me lo dijo el inglés, y me acentuó los siguientes puntos:—

Enumeró Don Moncho sin parar:

— Uno, afecta a todas las organizaciones, a las administrativas, a las comerciales, a las académicas, ¡y hasta a las del campo! —

— Dos, la gente importante de estas organizaciones afectadas son verdaderos galopines, con poca imaginación. Los más dignatarios están activos en intrigas mutuas, y los menos, frustrados o frívolos. Poco se intenta, nada se lleva a cabo.

— Tres, cuando las instituciones se ponen tiesas, como en coma, lo han logrado solo tras una agonía planificada, con un propósito firme y después de un esfuerzo concienzudo.

— Cuatro, desde su comienzo insidioso alientan el progreso de la enfermedad, agravan sus causas y le dan la bienvenida a los síntomas. ¡Ni que fuera visita! —

Siguió el monólogo Don Moncho. ¿Quién para a un puertorriqueño en su queja?

— Esta es la enfermedad de la inferioridad aceptada, bien llamada Incelitis por Parkinson. Aquí es mucho más común que lo sospechado y su diagnóstico se facilita más que su cura.—

Cogió aire Don Moncho. Aproveché para preguntar: — ¿Cómo comienza? ¿Cuándo se detecta? ¿Cuáles son sus síntomas iniciales? —

Continuó Don Moncho, sin inmutarse:

— Nos dice Parkinson: ¡La primera señal de peligro es una aparición! Surge un individuo con una combinación perfecta, una buena "mixta", de incompetencia y celos. — Añadió — Envidia, diría yo. Al fundirse los componentes, espontáneamente surge el germen de la enfermedad que sabiamente llamó Parkinson el Incelis. —

— Infectado el funcionario, siu nunca haber logrado nada propio de eucomio, intenta controlar la administración central. Puede también el individuo entrar en la organización central directamente por herencia, asignado, o quizás por selección privilegiada. —

Añadió Don Moncho:

— La próxima etapa del padecimiento de Parkinson ocurre cuando el individuo afectado por el

Incelis logra control completo o parcial de la organización central. Entonces se reconocen los síntomas con más facilidad. Los incelitados, ya magnates, emprenden varios proyectos. Se dedican, primero, a concentrar en todos aquellos con más habilidad que ellos. O los arrinconan, acorralan, postergan o eliminan. Casi siempre los aíslan, a veces estimulan el exilio, y cuando todo falla, los botan. Segundo, resisten el nombramiento o ascenso de cualquier individuo de promesa. Se escuchan cositas como: “¿Gumersindo para ese puesto? inteligente quizás, ¿pero es confiable?”; “Enriqueto es preferible, es de los nuestros, y se lleva bien con sus compañeros”; “Yo prefiero a Leovigildo o Nemesio, no son buscabullas ni controversiales como Restituto”

—Así, para el que padece de Incelitis, **juicio** significa lo opuesto a **inteligencia**: ¡juicio es el arte de respetar y defender lo que se hizo la última vez! No es de extrañar el ascenso de Enriqueto, junto a Nemesio y Leovigildo, mientras Restituto el buscabullas y Gumersindo el inteligente no confiable son arrinconados y no los dejan echar pá alante.—

—Pero, poco a poco, la administración central va llenándose de incompetentes en franca competencia por la incompetencia. Un director mediocre escogerá subalternos papanatas, y éstos a la vez, se rodearán de insignificantes. Siga usted por ahí para abajo y llegará a las momias.

Continuó Don Moncho:

—La próxima etapa, la final del padecimiento, la señala la desaparición del último destello de inteligencia y originalidad en toda la organización. No se encuentra ni arriba ni abajo. La institución está tiesa, Muerta. No se mueve. Puede permanecer así mil años. O quizás se desintegre cantito a cantito, departamento por departamento. Entonces es que aparecen los defensores del “sistema”, claro está, cada uno defiende su cantito. —

—Los casos de recuperación, ¡los hay! , pero según el inglés son rarísimos. A veces surgen individuos que desarrollan una inmunidad pasmosa a la Incelitis. Encargados y entregados a la tarea de eliminar la habilidad, no hay duda que los mediocres tienen éxito, y logran, eventualmente, nombrar imbéciles tan incompetentes, que por su densidad, no pueden ya ni reconocer la habilidad. Se cuela entonces un individuo de mérito, penetra las defensas, asiste a **todos** los cócteles y a **todas** las reuniones y acepta pertenecer a **todos** los comités. Junto a su Jefe tartamudea y gaguea a la señal convenida, defiende a los culpables amparándolos bajo el “sistema” y sólo cuando escala el mismo tope se despoja de su disfraz. Aparece como el Rey Sol entre las tinieblas. En desconcierto, los incompetentes gritan su desesperación pero no tienen otra alternativa que la retirada. La enfermedad es vencida y la institución recupera . . . en diez años, más o menos.—

Advirtió Don Moncho:

—Estas curas naturales son bien, bien raras. En el trópico, no conocemos una sola. En la mayoría de los casos esta enfermedad es incurable; de gravedad tal, que la dolencia sólo ha cedido, hasta ahora, a cirugía radical. Pero la cirugía será exitosa cuando importan la cuchilla de otra institución. Para curarla no pueden contar los lazos familiares, compadrazgos, las deudas personales, los lazos políticos, nada que limite la extirpación necesaria. Hay que terminar con todo aquél infectado por la Incelitis.

¿Y cómo se reconocen los enfermos? — pregunté yo.—

Generalmente alucinan, o deliran, respondió Don Moncho — Los que alucinan, dicen: “No debemos intentar competir con Más Que Trata, porque esa corporación es rica y nosotros somos pobres”, o “Aquí en Vagui-Landia nuestra labor sí es útil para el país, hacemos lo que se puede, y aramos con los bueyes que tenemos”, o. “No pretendamos alcanzar a Estofón-City, es mejor que no seamos primeros, ni segundos, ni décimos, siempre que todos nos llevemos bien y reine la paz y la armonía”, y quizás, “¿no dijo Aristóteles que el hombre es un animal político?, pues la politiquería es necesaria en nuestras intituciones”. Dime tus excusas y te diré qué eres.—

Y siguió su disertación:

—Revela esto cuán bajo han fijado la meta, de su vida y del País, los Incelitados, y no satisfechos, aceptan patrones de conducta aún por debajo de la meta fijada. Estos son los que desearían pasar diariamente bajo su pensamiento guía, y verlo esculpido en granito negro, o grabado en oro, sobre la entrada principal: "Somos y seremos siempre pequeños y mediocres".

Peor aún son los que deliran infectados por la Incelitis: éstos no reconocen, como aquéllos, la existencia de otras instituciones con metas más altas. En éstos brilla la complacencia olímpica. Cacarean, "Aquí no hacemos muchos errores", principalmente porque nunca hacen gran cosa.—

Ya casi terminado el coquito, continuó Don Moncho:

—De ahí se pasa a la apatía total, cuando se olvidan por completo a los demás. La vida humana no se respeta. El equipo nuevo se torna obsoleto sin usarse nunca. No hay quién le dé uso. Los curriculum vitae se encogen, pero los consultores legales y de relaciones públicas se multiplican. Se escogen consultores para comprar equipo y recomendar cambios precisamente porque ya ni se acuerdan ni de lo que sabían. No hay quién consiga una cita, porque pasan su tiempo los directores contando los años para el retiro. Ha muerto la institución. Son mil años de soledad.

Intrigado, pregunté yo: ¿Y si fracasa la cirugía radical?

Contestó Don Moncho:

—Aunque Parkinson recomienda otras medidas paliativas como inyecciones de Intolerancia, infusiones controladas de Sátira, aplicaciones juiciosas de Penitencia, y especialmente en los trópicos, concentraciones de andrógenos, especialmente de testosterona, estos remedios funcionan solamente en etapas tempranas de la enfermedad. Para remediar el estado de coma, Parkinson es pesimista pero sanguinario. Tiesa ya la institución, podrá fundarse otra, totalmente nueva. Será exitosa sólo con un cambio radical de nombre, sitio y facultad. Debe resistirse tenazmente la tentación, por motivos económicos usualmente, de transferir personas de la vieja a la nueva organización. Esta transfusión sería letal, porque transmitiría de seguro la Incelitis. No debe moverse ni el equipo, que junto con los archivos, debe destruirse totalmente. En cuanto a los edificios, aconseja el inglés, estos deben asegurarse al máximo y luego incendiarse. Sólo así, sobre las ruinas carbonizadas, pronunciaremos muerto el germen de la Incelitis.—

Sombríamente, Don Moncho aseguró:

—En su paso por San Juan, en este año casi viejo, Parkinson detectó montones de Incelitados. Había Incelitis por doquiera. A mí, me lo confió personalmente. Si es así, Dios nos proteja en el 1975.

Cogió el sombrero. Abrió un hueco en la neblina. Se despidió. En menos de un instante desapareció.

En la distancia creí oír rebuznar el Caballo del Diente de Oro.....

Jorge O. Just Viera, MD

THE NAVY AS A MEDICAL CAREER

I am a Navy doctor, a commander in the naval reserve. At present, I am Chief of Medical Service at the U. S. Naval Hospital in Ceiba, Puerto Rico. I was born in Arecibo and went to medical school in Santiago de Compostela, Spain. To tell the truth, I was forced into the Navy when I was drafted in 1964 soon after I obtained my medical board certificate from Puerto Rico. It was tough at that time. I had just started my residency training in internal medicine at the University Hospital in Río Piedras, and was involved in buying a new house. To make things worse, my first duty station was in a nuclear submarine where patrols last for three months. On top of that, my wife was also expecting our third child. By the time I returned from my first patrol, my daughter was two and a half months old.

The draft is gone today, but the Navy is still with us. We are in need of a few well-trained, qualified, and well-motivated physicians. The number of opportunities the U. S. Navy has for young doctors is immense. A great number of these young physicians do not realize the opportunities available for them in the Armed Forces. There is still confusion and misunderstanding today about the purpose of the military physician in part created by the image of doctors that were forced to "join" the Armed Forces against their will in the past.

Structure of Navy Medicine

The Naval Medical Department comprises doctors, nurses, medical service (allied scientists and health administrators), and hospital corpsmen dedicated to the best most modern and efficient care for the military member and his family. Patient care is our primary mission. Patients' problems in the Navy are medical, not financial. The newly created Physicians Assistance Program insures that a doctor's work is as a doctor. This recently implemented program trains hospital corpsmen to perform routine duties. In this way, the physician will be free to perform his primary health care. A new doctor in the Navy can count on the opportunities to practice medicine in an extremely busy environment or he can expect duties where he will have time to continue his education at the nearby medical center or pursue medicine in his particular field of interest through professional meetings or research. The Navy has ten major teaching hospitals offering residency programs in 26 specialty areas with the necessary personnel, facilities, and equipment needed to support these programs. Among others, these areas include endocrinology, plastic surgery, urology, and training in the Navy specialties of aerospace medicine, submarine and nuclear medicine, and cold weather medicine. One hundred forty-nine rotating and straight internships are available in all the teaching programs. There are 508 residents in the Navy.

Navy Life — "To Get What It Takes"

During my time with the Navy, I have had the opportunity to visit and enjoy living in Charleston, South Carolina; Norfolk; Virginia; and Roosevelt Roads in Puerto Rico. According to available data, the civilian physician moves every four to five years in the United States. The Navy moves for a physician compare relatively well with the civilian statistics. If you add to this the fact that cost of

moving, transportation and orientation to facilitate your move to the new area are provided by the Navy, the changing of environment can be, and in fact is, pleasant. On the other hand, there is a big possibility that after a few varied duty stations, the doctor may be assigned to a particular area of his choice where he can remain for an indefinite period of time according to the needs of the Navy. Naturally, most Navy physicians have to count on one or two tours of sea duty. For me, the sea duty was on board the USS VON STUBEN, and it was both challenging and very interesting. During my two patrols, I had the pleasure of meeting a group of highly trained individuals working as a team for a common purpose. On the other hand, I had the opportunity of becoming involved in a new and uncommon practice of medicine which gave me a broader scope in my conception of health care. I am highly proud when I mention the fact that I was one of the three Puerto Rican physicians who have served in nuclear submarines.

Some people compare Navy life to that of a big family. During my recent visit to the Naval Medical Center in Bethesda, Maryland, I found that there were so many people I knew (doctors, nurses, corpsmen, and patients) that I got the impression that I had worked before in this great institution. It is a great opportunity not only to know by living in different parts of the world but also to meet different kinds of people, people from all backgrounds, from all parts of the country, and from abroad. On the other hand, the regular hours at the hospitals where organization is unique, give you more time to be spent with your family. In this respect, the Navy physician's life compares more than favorably with his civilian counterpart's life. In reality, for me, life in the Navy is special. That is why I decided to stay.

However, I should point out that the Navy is for those who have had what it takes to get ahead. You will be expected to provide the best possible medical care to the Navy operating forces. There will be some weekend and night duties and possibly services in out of the way places. At times your work will be demanding but the rewards and satisfactions are great if you've got what it takes.

There are 28 major regional medical centers in the United States and 8 centers located in countries such as Spain, Italy, Guam, Japan, Cuba, Taiwan, Philippines, and Puerto Rico. Small centers are located in Australia, Bermuda, Morocco, Sicily, Northern Ireland, Midway, and Okinawa. As a Navy physician, you will join the Navy and see the world (as our recruiting posters continue to say), join the Navy and see the U. S., or join the Navy and see the sea during a selected period of seaboard duties, or the undersea as I did when I was in my submarine. A lot depends on where you are needed and what you are qualified to do.

Other Incentives, Navy Pay and Other Fringe Benefits

Navy pay compares favorably with physicians income in Puerto Rico. To alleviate the shortage of active duty career physicians and dentists, Congress has passed a law providing what is called the variable incentive pay (VIP). When implemented, the VIP will serve as an incentive pay to young physicians entering the service by granting a lump sum of several thousand dollars to physicians that have completed their two years of military service and decide to stay on active duty. When implemented the total amount of money earned by a physician in the Navy will compare very favorably with any economical remuneration a physician may have in any state of the United States.

Promotion

The Navy Medical Corps unlike any other Navy staff corps, is promoted under a special promotion act that allows constructive credit for promotion. Doctors are given four years credit for their medical degree and full time credit for the period spent in an approved civilian residency training. They also receive full credit for all previous service as a medical officer in the Armed Forces and Public Health Service, one-half year for each year as a commissioned officer other than medical officer

up to a maximum of three years credit, one year credit for approved internship, and three-quarters credit for the years subsequent to graduation from medical school not otherwise credited. Most starting general practitioners receive five years service credit and come on active duty as lieutenants. Specialists who have had three years residency training come on active duty as lieutenant commanders. A medical officer in the Navy receives 30 days vacation which are earned at a rate of 2 1/2 days per month with full pay and allowances. The retirement system is an outstanding incentive to remain in the Armed Forces today. Commissary, medical, Navy Exchange, officers' club, and recreational facilities all provide benefits that can be translated into dollars and cents advantages.

Eligibility

To be eligible to become a medical officer in the Navy, there are no sex restrictions. Physicians must be citizens of the United States for career service. Non-citizens can apply for reserve commissions and transfer to career service when naturalized. Physicians must be over 21 and under 48 at the time of commissioning. Newly commissioned officers in the Medical Corps must be graduates of a medical school approved by the American Medical Association. Graduates of foreign medical schools are eligible if holding permanent certification of the Educational Council, for Foreign Medical Graduates, or a permanent and unrestricted license to practice medicine from any state, District of Columbia, Puerto Rico, or a territory of the U. S. There are no restrictions regarding marital status or size of the family. Women who have dependent children under 18 will require consideration on a case by case basis. Each individual's physical fitness will be considered on a case by case basis. Physical qualifications are determined by the Surgeon General in all cases. The applicant is obliged to serve two years of active duty after which the medical officer can decide to stay as an active duty officer in the Navy or go back to civilian practice.

Final Assessment

In general, the reason that I have taken the time to expose this new Navy to all my fellow physicians in Puerto Rico is because I truly believe that there is a challenging new world for training and enjoyment of the practice of medicine set aside by the Navy. No strings are attached and anybody can request more information without any obligation. My personal feelings are that any new physician planning to project his medical training into the future should and must put in his list of considerations a visit to the nearest Navy Recruiting Office for more information regarding the opportunities available for him with the Medical Corps.

I hope I have given you some food for thought.

G. V. GONZALEZ-LIBOY
CDR, MC, USNR
Chief, Medical Service



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New Ascriptin[®] with Codeine Tablets

#2— $\frac{1}{4}$ grain codeine tablet
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And Ascriptin, remember, is Maalox[®]-protected aspirin. That means less chance of aspirin-induced gastric distress... even with high doses.

INDICATION: As an analgesic for the relief of pain of all degrees of severity up to that which requires morphine.

SIDE EFFECTS: Side effects are rare. Nausea, constipation and drowsiness may occur.

Warning—may be habit forming.

USUAL ADULT DOSE: Ascriptin with Codeine #2 ($\frac{1}{4}$ grain): Two tablets every 3 or 4 hrs. when necessary.

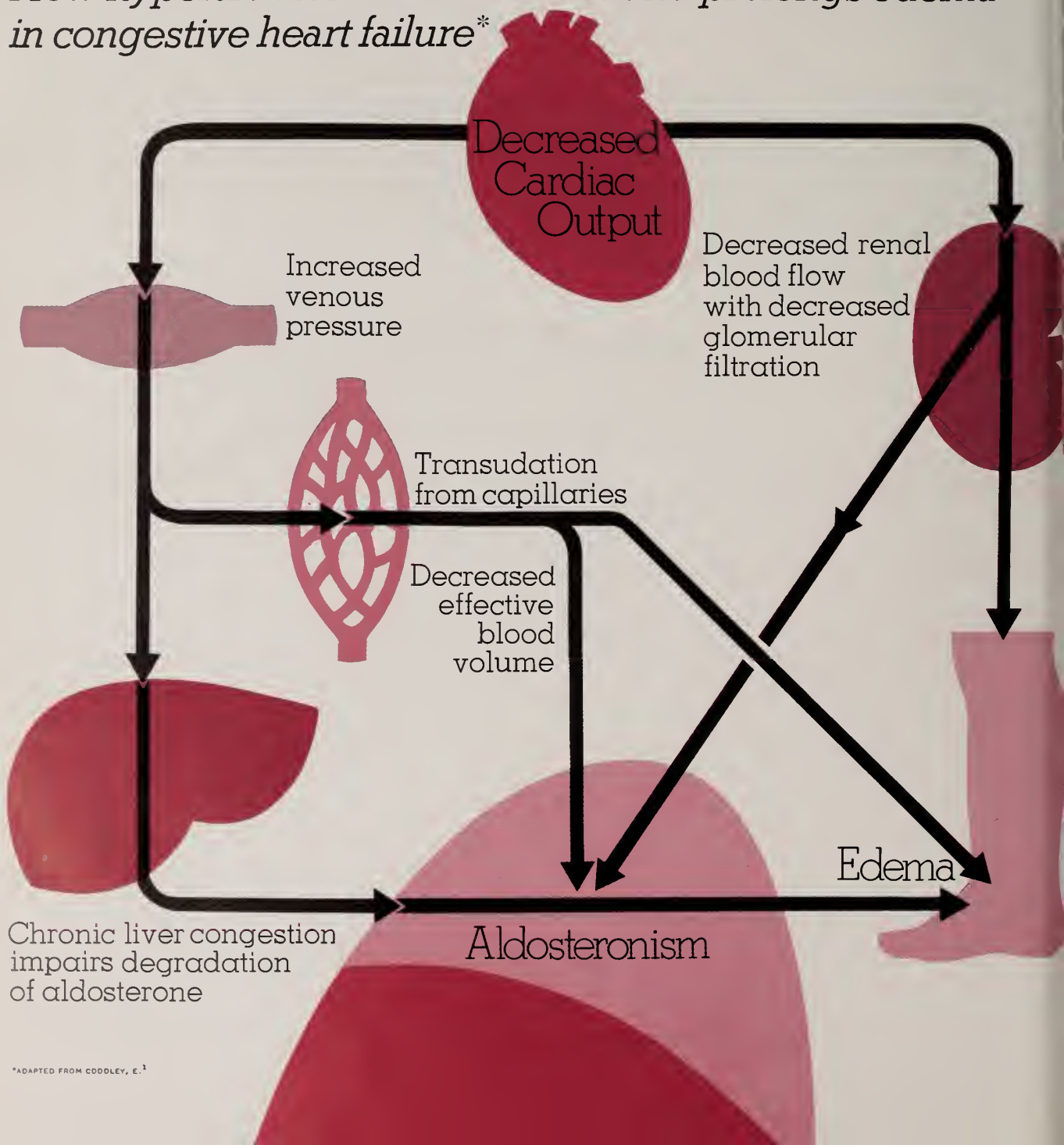
Ascriptin with Codeine #3 ($\frac{1}{2}$ grain): One or two tablets every 3 or 4 hrs. when necessary.



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1. As the only diuretic

- Often sufficient alone.
- Produces gradual, sustained diuresis by blocking aldosterone action in the distal renal tubule.
- Avoids potassium loss.

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- Can be administered daily as basic therapy with the additional agent (furosemide or ethacrynic acid) given every second or third day.
- Aldactone plus "A.D.D." schedule minimizes potassium deficiency and potentiates effect of "add-on" diuretic.²
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3. As a daily diuretic in combination with a daily dose of a thiazide

- Permits daily additive diuretic effect while maintaining potassium balance.

Indications—Essential hypertension; edema or ascites of congestive heart failure, cirrhosis of the liver and the nephrotic syndrome; idiopathic edema. Some patients with malignant effusions may benefit from Aldactone (spironolactone), particularly when given with a thiazide diuretic.

Contraindications—Acute renal insufficiency, rapidly progressing impairment of renal function, anuria and hyperkalemia.

Warnings—Potassium supplementation may cause hyperkalemia and is not indicated unless a glucocorticoid is also given. Discontinue potassium supplementation if hyperkalemia develops. **Usage of any drug in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the mother and fetus.**

Precautions—Patients should be checked carefully since electrolyte imbalance may occur. Although usually insignificant, hyperkalemia may be serious when renal impairment exists; deaths have occurred. Hyponatremia, manifested by dryness of the mouth, thirst, lethargy and drowsiness, together with a low serum sodium may be caused or aggravated, especially when Aldactone is combined with other diuretics. Elevation of BUN may occur, especially when pretreatment hyperazotemia exists. Mild acidosis may occur. Reduce the dosage of other antihypertensive drugs, particularly the ganglionic blocking agents, by at least 50 percent when adding Aldactone since it may potentiate their action.

Adverse Reactions—Drowsiness, lethargy, headache, diarrhea and other gastrointestinal symptoms, maculopapular or erythematous cutaneous eruptions, urticaria, mental confusion, drug fever, ataxia, gynecomastia, inability to achieve or maintain erection, mild androgenic effects, including hirsutism, irregular menses and deepening voice. Adverse reactions are infrequent and usually reversible.

Dosage and Administration—For **essential hypertension in adults** the daily dosage is 50 to 100 mg. in divided doses. Aldactone may be combined with a thiazide diuretic if necessary. Continue treatment for two weeks or longer since on adequate response may not occur sooner. Adjust subsequent dosage according to response of patient.

For edema, ascites or effusions in adults initial daily dosage is 100 mg. in divided doses. Continue medication for at least five days to determine diuretic response; add a thiazide or organic mercurial if adequate diuretic response has not occurred. Aldactone dosage should not be changed when other therapy is added. A daily dosage of Aldactone considerably greater than 75 mg. may be given if necessary.

A glucocorticoid, such as 15 to 20 mg. of prednisone daily, may be desirable for patients with extremely resistant edema which does not respond adequately to Aldactone and a conventional diuretic. Observe the usual precautions applicable to glucocorticoid therapy; supplemental potassium will usually be necessary. Such patients frequently have an associated hyponatremia—restriction of fluid intake to 1 liter per day or administration of mannitol or urea may be necessary (these measures are contraindicated in patients with uremia or severely impaired renal function). Mannitol is contraindicated in patients with congestive heart failure, and urea is contraindicated with a history or signs of hepatic coma unless the patient is receiving antibiotics orally to "sterilize" the gastrointestinal tract.

Glucocorticoids should probably be given first to patients with nephrosis since Aldactone, although useful for diuresis, will not directly affect the basic pathologic process.

For children the daily dosage should provide 1.5 mg. of Aldactone per pound of body weight.

References: 1. Coadley, E.: Consultant 12:106-107, 109, 111, 113, 115 (July) 1972. 2. Tharn, G. W., and Lauler, D. P.: Am. J. Med. 53:673-684 (Nov.) 1972.

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We're not against all her E. coli...

only the E. coli in her
urinary tract



Macrochantin (nitrofurantoin macrocrystals) is exceptionally effective against E. coli. But it confines its antibacterial action to the urinary tract. It is indicated for the treatment of cystitis,* pyelitis* and pyelonephritis*...nothing else.

Macrochantin is not indicated for therapy of any systemic infection. And it does not suppress normal bac-

**Basic in cystitis*, pyelitis*,
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The one-tract action of

Macrochantin® Capsules
(nitrofurantoin macrocrystals) 50mg./100mg.

Indications: Macrochantin (nitrofurantoin macrocrystals) is indicated for the treatment of pyelonephritis, pyelitis and cystitis due to E. coli, enterococci, Staph. aureus or a small percentage of strains of Pseudomonas, when demonstrated to be susceptible by in vitro susceptibility testing. Also for treatment of such infections when due to some susceptible strains of Klebsiella-Aerobacter and Proteus. It is not indicated for treatment of associated renal cortical or perinephric abscesses, systemic infections or prostatitis, or in any genitourinary tract infections other than pyelonephritis, pyelitis and cystitis.

Contraindications: Anuria, oliguria or extensive impairment of renal function is a contraindication. The drug is contraindicated for infants under one month and in pregnant patients at term. The drug should not be administered to persons who have shown hypersensitivity to nitrofurantoin.

Warnings: Macrochantin may cause hemolytic anemia of the primaquine sensitivity type, apparently linked to a glucose-6-phosphate dehydrogenase deficiency. This deficiency is found in 10 per cent of Negroes and in a small percentage of ethnic groups of Mediterranean

and Near-Eastern origin. Such patients should be observed closely while receiving nitrofurantoin. Discontinue the drug at any sign of hemolysis. Hemolysis ceases on withdrawal. Superinfections may occur, most commonly due to Pseudomonas.

Usage in pregnancy: THE SAFETY OF NITROFURANTOIN DURING PREGNANCY AND LACTATION HAS NOT BEEN ESTABLISHED. IT SHOULD NOT BE USED IN WOMEN OF CHILDBEARING POTENTIAL UNLESS THE EXPECTED BENEFITS OUTWEIGH THE POSSIBLE HAZARDS.

Precautions: Peripheral neuropathy may occur. A fatality has been reported. Predisposing conditions such as renal impairment, anemia, diabetes, electrolyte imbalance, vitamin B deficiency and debilitating disease may enhance such occurrence.

Adverse reactions: Nausea, emesis and diarrhea may occur; reduction in dosage may alleviate these symptoms. Sensitization appearing as cutaneous eruptions or pruritus has occurred. Hypersensitivity reactions resulting in nonfatal anaphylaxis, angioedema, pulmonary infiltration with pleural effusion and eosinophilia have been reported. Other possible

terial flora elsewhere in the body. (As with other antibacterials, superinfections may occur, but these are limited to the urinary tract. Pseudomonas is the organism most commonly implicated.)

Macrochantin works against a majority of urinary tract pathogens, including some strains of Proteus and Klebsiella-Aerobacter; however, only a small percentage of strains of Pseudomonas are susceptible.

*Due to susceptible organisms.

reactions are chills, fever, jaundice, asthmatic symptoms and hypotension. Occasionally headache, dizziness, nystagmus, vertigo, drowsiness, malaise and muscular aches have occurred. Transient alopecia has been reported. Leukopenia, including granulocytopenia, has been reported rarely. The blood picture has returned to normal following cessation of therapy. As with other antimicrobial agents, superinfections by resistant organisms may occur. With Macrochantin, however, these are limited to the genitourinary tract because suppression of normal bacterial flora elsewhere in the body does not occur.

Dosage: Adult: 50 to 100 mg. four times a day.

Supplied: Macrochantin (nitrofurantoin macrocrystals) Capsules of 50 mg. and 100 mg.

EATON PRODUCT CODE—For easy product identification and verification—Macrochantin Capsules 50 mg. (F03), 100 mg. (F04).



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**Annual Meeting of the Puerto Rico Medical Association
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The Scientific Committee of the
Puerto Rico Medical Association will select the winners,
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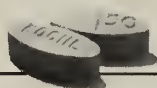
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- against susceptible strains of the common urinary tract pathogens, usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species.



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

Note: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in chronic and recurrent urinary tract infections.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia in elderly patients on diuretics, primarily thiazides. Sore throat, fever, pallor or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. Data are insufficient to recommend use in infants and children under 12.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, allergy or bronchial asthma; and in those with glucose-6-phosphate dehydrogenase deficiency, where hemolysis may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus,

exfoliative dermatitis, anaphylactoid reactions, peri-orbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12.

Usual adult dosage: Two tablets b.i.d. for 10 to 14 days. For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

Supplied: Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose[®] packages of 1000; Prescription Paks of 40, available singly and in trays of 10.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Bactrim^{T.M.}

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.



Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of antibacterial activity
in cystitis, pyelonephritis and pyelitis diagnosed
as chronic and due to susceptible organisms.

Before prescribing, please consult complete product information,
a summary of which appears on preceding page.



72^{da}

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ANUAL

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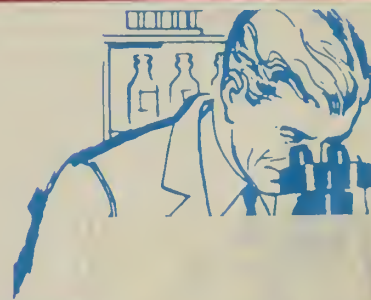
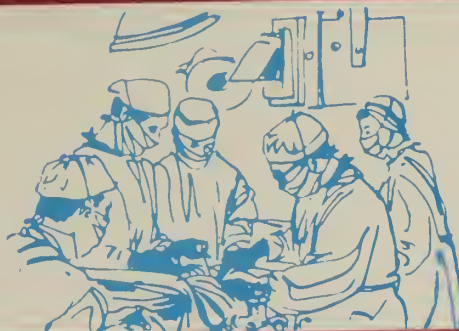
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BOLETIN

Vol. 66 Septiembre 1974 No.9

THE FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE
10 SHATTUCK STREET
BOSTON, MASS. 02115

Both often



Predominant
psychoneurotic
anxiety

Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures; require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuation (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). K. addiction-prone individuals under care

respond to one

THE FRANCIS A. COUNTWAY
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DEC 1 1974

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or

two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

1. Henry BW, *et al*: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, *et al*: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

Valium[®]
(diazepam)
2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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Nutley, New Jersey 07110

the color

antipruritic

anti-inflammatory

antibacterial

antifungal



facts...

You're on thin ice if you depend on just a plain topical steroid to clear a dermatitis that has become infected with fungi or bacteria.

Vioform-Hydrocortisone, with its four-way action, provides the kind of comprehensive therapy many common dermatoses* require.

This drug has been evaluated as possibly effective for these indications. See brief prescribing information.

Vioform®-Hydrocortisone (iodochlorhydroxyquin and hydrocortisone)

INDICATIONS

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urticata; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris, corporis, pedis); moniliasis; intertrigo.

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS

Hypersensitivity to Vioform-Hydrocortisone, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia, and varicella).

WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate systemic antibiotics should be used.

Usage in Pregnancy

Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been established. Therefore, they should not be used extensively on pregnant patients in large amounts or for prolonged periods of time.

PRECAUTIONS

May prove irritating to sensitized skin in rare cases. If this occurs, discontinue therapy. May stain.

If used under occlusive dressings or for a prolonged period, watch for signs of pituitary-adrenal axis suppression.

May interfere with thyroid function tests. Wait at least one month after discontinuance of therapy before performing these tests. The ferric chloride test for phenylketonuria (PKU) can yield a false-positive result if Vioform is present in the diaper or urine.

Prolonged use may result in overgrowth of nonsusceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS

Few reports include: Hypersensitivity, local burning, irritation, pruritus. Discontinue if untoward reaction occurs. Rarely, topical corticosteroids may cause striae at site of application when used for long periods in intertriginous areas.

DOSAGE

Apply a thin layer to affected areas 3 or 4 times daily.

HOW SUPPLIED

Cream, 3% Iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of 5 and 20 Gm. *Ointment*, 3% Iodochlorhydroxyquin and 1% hydrocortisone in a petrolatum base; tubes of 5 and 20 Gm. *Lotion*, 3% Iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearic acid, cetyl alcohol, lanolin, propylene glycol, sorbitan trioleate, polysorbate 60, triethanolamine, methylparaben, propylparaben, and perfume Flora in water; plastic squeeze bottles of 15 ml. *Mild Cream*, 3% Iodochlorhydroxyquin and 0.5% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of ½ and 1 ounce. *Mild Ointment*, 3% Iodochlorhydroxyquin and 0.5% hydrocortisone in a petrolatum base; tubes of ½ and 1 ounce.

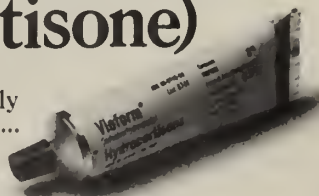
Consult complete product literature before prescribing.

CIBA Pharmaceutical Company
Division of CIBA-GEIGY Corporation
Summit, New Jersey 07901

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Vioform®- Hydrocortisone (iodochlorhydroxyquin and hydrocortisone)

Another fact...
the most widely
prescribed form...
20 Gm Cream



C I B A

BOLETIN

ASOCIACION MEDICA DE PUERTO RICO



Organo Oficial

Fundado en 1903

Volumen 66

Septiembre 1974

Número 9

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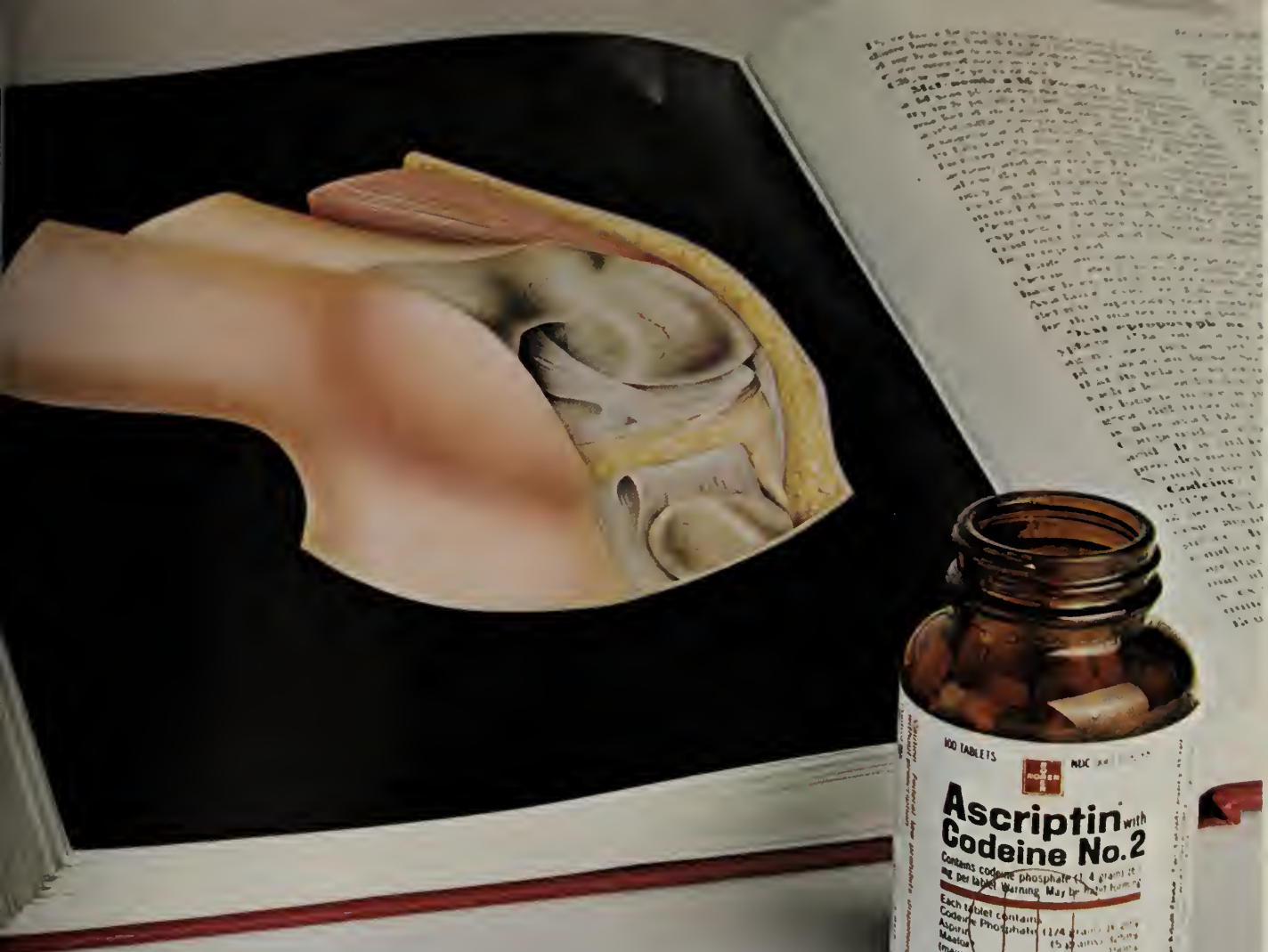
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Introducing a conservative step in acute arthritic flare-up

New Ascriptin[®] with Codeine Tablets

#2— $\frac{1}{4}$ grain codeine tablet
#3— $\frac{1}{2}$ grain codeine tablet

Reduces inflammation, relieves severe pain

When aspirin therapy alone is not sufficient, consider new Ascriptin with Codeine Tablets. The codeine relieves more severe bouts of pain. Yet joint stiffness and inflammation are still eased by basic aspirin—thus avoiding the escalated risks associated with more potent anti-inflammatories or corticosteroids.

And Ascriptin, remember, is Maalox[®]-protected aspirin. That means less chance of aspirin-induced gastric distress... even with high doses.

INDICATION: As an analgesic for the relief of pain of all degrees of severity up to that which requires morphine.

SIDE EFFECTS: Side effects are rare. Nausea, constipation and drowsiness may occur.

Warning—may be habit forming.

USUAL ADULT DOSE: Ascriptin with Codeine #2 ($\frac{1}{4}$ grain): Two tablets every 3 or 4 hrs. when necessary.

Ascriptin with Codeine #3 ($\frac{1}{2}$ grain): One or two tablets every 3 or 4 hrs. when necessary.



WILLIAM H. RORER, INC.

What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.



Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file,
Hoffmann-La Roche
Inc., Nutley, N.J



The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).



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Nutley, N.J. 07110

This patient's lesions were resolved with

Efudex®

fluorouracil/Roche®

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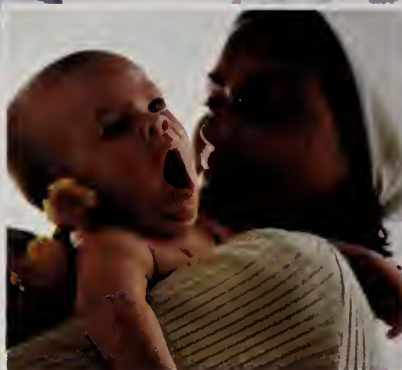
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Low renal solute load.

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Comparable to cow's
milk formulas in supporting
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AND MILK-WHITE,
TOO.**



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Soy Protein Isolate Formula

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SYNTEX LABORATORIES, INC.
NUTRITIONAL PRODUCTS DIV.
PALO ALTO, CALIFORNIA 94304

PROGRESO TERAPEUTICO: MECANISMO DE ACCION Y USO DE ANTIBIOTICOS

Carlos H. Ramírez Ronda, MD

En la práctica diaria de la medicina una de las drogas más usadas son los antibióticos. Para poder recetar antibióticos inteligentemente el médico debe conocer el mecanismo de acción de los mismos, la sensibilidad de los organismos que causan la infección y finalmente escoger la droga apropiada basada en la apreciación clínica del paciente y en el conocimiento científico.

Para entender el mecanismo de acción de los antibióticos debemos familiarizarnos con la bioquímica celular, síntesis de proteína y genética molecular.

La síntesis de proteína debe entenderse basada en la biología molecular de replicación y transferencia de información genética. Acido desoxirribonucleico (ADN) se replica en dos cadenas complementarias en presencia de la polimerasa ADN, estas cadenas se replican más adelante en ácido ribonucleico de ribosomas (r-ARN); ARN de transferencia (t-ARN) y en ARN mensajero (m-ARN) en la presencia de la polimerasa ARN.

El m-ARN transcribe el código de un aminoácido (AA) a la ribosoma donde t-ARN traerá el AA apropiado a la ribosoma codificada. La ribosoma está compuesta por dos unidades, llamadas componentes 30S y 50S. Estas unidades están unidas la mayor parte del tiempo formando el complejo 70S (ribosoma), en ausencia de magnesio este complejo se divide en sus unidades, resultando una ribosoma inactiva.

La síntesis de peptidos requiere que el AA unido a t-ARN sea activado por un sistema enzimático (Transferasa I). Una vez activado, el AA se une al componente 50S de la ribosoma según predeterminado por m-ARN a través de la codificación genética. Un segundo AA se le añadirá a la ribosoma codificada en la presencia de Transferasa II. Este proceso continúa hasta que un

peptido se forma y finalmente la proteína. Cualquier sustancia que interfiera con este proceso tiene un efecto en la célula.

Debemos de conocer la estructura básica de la pared y membrana celular para entender el mecanismo de acción de varios antibióticos. La pared celular bacteriana contiene un mucopeptido insoluble al cual estructuras se adhieren; como ácidos teicoicos, grupos de carbohidratos específicos (liposacaridos endotóxicos), etc. El mucopeptido se compone de unidades alternadas de ácido N-acetil murámico (NAcMur) y N-acetilglucosamina (NAcGluc), en donde el ácido NAcMur de una cadena se une al ácido NAcMur de una segunda cadena por diferentes aminoácidos específicos (transpeptidación). La interrupción o bloqueo de la incorporación de cualquiera de estos aminoácidos a la pared celular resulta en la destrucción de ésta.

La membrana plasmática es una estructura laminada de 100A° de espesor en donde capas de proteína y lípidos se alternan, compuesta de 30 por ciento lípido y 50 por ciento proteína.

Mecanismos de Acción

A. Interferencia con la síntesis de proteína.

1. Aminoglicosidos (Estreptomina, Kanamicina, Neomicina, Gentamicina, Tobramicina).

Este grupo actúa alterando el mecanismo de pareo de m-ARN y t-ARN produciendo una falsa lectura de la codificación genética, ellos también precipitan ácidos nucleicos en la ribosoma resultando en inactividad celular. Davies localizó el efecto de la estreptomina a la parte 30S de la ribosoma. El mecanismo probable es como sigue: después de una exposición inicial al aminoglicosido (AGS) y la unión de algunas moléculas del AGS a los receptores aniónicos en la superficie celular, la droga llega al complejo ribosoma-m-ARN, allí permite a una molécula de m-ARN unirse erróneamente a t-ARN, como resultado se inserta un aminoácido incorrecto al nuevo polipep-

Del Departamento de Medicina, Escuela de Medicina, Universidad de Puerto Rico, San Juan, Puerto Rico.

Auspiciado por "National Heart and Lung Institute Grant" No. 5342.

Favor pedir reproducciones a: Carlos H. Ramírez Ronda, MD, Box 35465, Dallas, Texas 75235.

tido llevando a una síntesis falsa de proteínas y fallo de las estructuras vitales. Como resultado este grupo es bactericida.

2. Cloranfenicol

Un antibiótico con muchos usos pero con efectos secundarios serios. Interfiere con la unión de m-ARN a la ribosoma, resultando en inhibición de síntesis de proteínas, esta interferencia es competitiva como resultado su acción es bacteriostática.

3. Antibióticos macrolidos (Eritromicina, Lincomicina, Clindamicina).

Actúan interfiriendo con el mecanismo de transacción en la ribosoma con inhibición de síntesis de proteínas. Son bacteriostáticos.

4. Acido nalidixico, Griseofulvina (No relacionados). Bloquean la replicación de ADN.

5. Tetraciclinas

Actúan inhibiendo la reacción de unión de complejo AA-t-ARN al componente 50S de la ribosoma esta inhibición es solamente 50 por ciento efectiva. Las tetraciclinas también precipitan magnesio resultando en la separación de las subunidades de las ribosomas; resultado final es inhibición de síntesis de proteínas y acción bacteriostática.

6. Rifampin

Interfiere con la polimerasa ARN resultando en disminución en la síntesis de proteína; su acción es bactericida.

B. Interferencia en la función de la pared celular bacteriana.

1. Penicilinas (Penicilina G, Penicilina V, Ampicilina, Carbenicilina, Meticilina, etc.).

El grupo de antibióticos más usado y de mayor utilidad, actúa previniendo la síntesis del mucopeptido de la pared celular interfiriendo con la reacción de transeptidación. Los diferentes tipos de penicilinas actúan en diferentes reacciones de transeptidación, lo cual explica por qué algunas penicilinas (Ampicilina, Carbenicilina) actúan en bacterias gram negativas eficazmente. Este grupo es bactericida.

2. Cefalosporinas (Cefalotina, Cefaloridina, Cefoglicina, Cefazolina).

Mecanismo idéntico al de las penicilinas.

3. Cycloserina

Droga antituberculosa de segundo orden, inhibe

la síntesis de la pared celular promoviendo la acumulación de los precursores muramicopeptidos sin el terminal residual D-alanil, D-alanina; a través de inhibición competitiva de las enzimas racemasa de alanina y sintetasa d-alanil-d-alanina.

4. Vancomicina-Ristocetina-Bacitracina.

Interfieren en la polimerización de los glucopéptidos actuando en la sintetasa de glucopéptidos, resultando en una pared celular débil en donde los puentes intermoleculares no se cierran.

C. Acción en la membrana plasmática.

1. Polimixinas (Polimixina B, Colistimetato sódico).

Estos antibióticos destruyen la membrana plasmática por una acción detergente, se unen a los lugares de unión aniónica debido a su afinidad por los grupos fosfatos resultando en desorientación de las láminas lipoprotéicas y alteración de las propiedades osmóticas de la membrana, causando muerte celular.

2. Antimicrobianos polienicos (Amfotericina B, Nystatina). Se unen a un esteroide que está presente en la membrana de organismos que son sensibles llevando a destrucción de la membrana y crenación.

3. Novobiocina-Vancomicina-Bacitracina.

Causan que la membrana plasmática pierda su capacidad para mantener gradientes iónicos normales llevando a muerte celular.

Uso de Antibióticos

Cada día nos encontramos con el dilema de qué antibióticos usar en un paciente dado. Hay ciertos principios que deben seguirse lo cual si no hacen la decisión más fácil, es orientada científicamente. Consideración debe darse a: 1) el estatus clínico del paciente, 2) el organismo que más probable causa la infección, 3) esfuerzos para identificar el organismo por métodos generales y específicos, 4) conocimiento de los patrones de susceptibilidad del organismo probable en el ambiente que usted trabaja y 5) decisión en cuanto al uso de agentes bactericidas o bacteriostáticos y la ruta de administración.

En una infección el paciente y su condición es lo más importante, la edad, los factores genéticos, condiciones asociadas como diabetes y otros deben considerarse. La función renal se altera con la edad al igual que hay pacientes que heredan deficiencias enzimáticas que requieren modificación en la terapia.

TABLA I: MICROORGANISMOS MAS PROBABLES A CAUSAR INFECCION (Por lugar y frecuencia)

LUGAR	MICROORGANISMOS
PIEL	Estafilococos, Streptococcus pyogenes, Hongos, Bacilos gram negativos
QUEMADURAS	Estafilococos, Streptococcus pyogenes, Pseudomonas
ULCERAS DE DECUBITO	Estafilococos, Escherichia coli, Streptococcus pyogenes, Organismos anaerobicos
HERIDAS TRAUMATICAS Y QUIRURGICAS	Estafilococos, Organismos anaerobicos, Bacilos gram negativos, Clostridia
CORNEA Y CONJUNTIVA	Virus herpetico, Estafilococos, Pseudomonas, D. pneumoniae
SENOS PARANASALES	D. pneumoniae, Streptococcus pyogenes, H. influenzae, Neisseriae
BOCA	D. pneumoniae, Hongos, Organismos de Vincent, Bacteroides
GARGANTA	Viruses, Streptococcus pyogenes, H. influenzae
OIDO EXTERNO	Estafilococos, Streptococcus pyogenes, D. pneumoniae, Pseudomonas
OIDO MEDIO	D. pneumoniae, H. influenzae, Estafilococos, Streptococos
TRACTO RESPIRATORIO	Viruses, D. pneumoniae, H. influenzae, Streptococcus pyogenes
PLEURA	Estafilococos, D. pneumoniae, H. influenzae, Bacilos gram negativos
PULMON (PULMONIA)	Viruses, Mycoplasmas, D. pneumoniae, H. influenzae, Estafilococos
ABCESO PULMONAR	Streptococcus anaerobicus, Bacteroides, Estafilococos, Klebsiella pneumoniae
TRACTO GASTROINTESTINAL	Viruses, Salmonella, E. coli, Shigella, Estafilococos
TRACTO URINARIO	E. coli, Bacilos gram negativos (Enterobacteriaceae), Estafilococos, Hongos, Enterococo
MENINGES	Viruses, Neisseriae meningitidis, H. influenzae, D. pneumoniae, Streptococcus pyogenes, Pseudomonas, Estafilococos, Tuberculosis
HUESOS	Estafilococos, Salmonella, Streptococos
ARTICULACIONES	Estafilococos, Streptococos, Neisseriae gonorrhoeae, Bacilos gram negativos, D. pneumoniae
ENDOCARDIO	Streptococcus viridans, Enterococo, Estafilococos, Bacilos gram negativos, Hongos, D. pneumoniae, Streptococcus pyogenes
SANGRE (BACTEREMIA)	Estafilococos, D. pneumoniae, Pseudomonas, Salmonella, Bacteroides, Neisseriae gonorrhoeae, Bacilos gram negativos
PERITONEO	Bacilos gram negativos, Enterococos, Bacteroides, Streptococcus anaerobicus, Clostridia, D. pneumoniae, Streptococcus pyogenes

Los organismos más probables a causar una infección por lugar de origen de la infección se presenta en la Tabla I. Allí se puede ver que en la piel el organismo más probable para causar infección es el estafilococo, seguido en segundo lugar por *Streptococcus pyogenes*, en tercer lugar los hongos y levaduras y en cuarto lugar los organismos gram negativos.

La identificación de organismos es de suma importancia y siempre debe hacerse el esfuerzo máximo para identificarlos. Se comienza con una tinción de Gram, de la secreción, exudado, transudado o lugar infectado; concurrentemente se cultiva el lugar apropiado o los lugares apropiados y en unos días se identifica el organismo por medios microbiológicos. Una vez identificado se prueba su sensibilidad por métodos de disco y o dilución en tubos. Es de suma importancia recalcar que antes de comenzar terapia deben tomarse cultivos apropiados incluyendo cultivos de sangre. Todo paciente que tenga una temperatura de 102°F (38.5°C)

o más, debe tener cultivos de sangre, éstos deben ser aeróbicos y anaeróbicos usando 5cc de sangre por botella de cultivo. Se obtiene un rendimiento mayor de positividad tomando los cultivos de sangre con el pico de fiebre o antes. En casos donde se sospeche endocarditis bacteriana debe tomarse un mínimo de cinco cultivos de sangre con un rendimiento de positividad de 85 por ciento o más. La terapia debe iniciarse basándose en la sospecha del organismo y los patrones de susceptibilidad en el hospital y la comunidad donde uno se encuentra. Se inicia terapia empíricamente basándose en el conocimiento de cuál organismo es más probable el causante de la infección y en la susceptibilidad de éste (Tabla II). Una vez se escoge el antibiótico éste se cambia si es necesario basándose en las pruebas de susceptibilidad del organismo aislado.

En el hospital en los pacientes gravemente enfermos la ruta de elección para la administración de antibióticos es la endovenosa. Si el paciente puede tolerar y la condi-

TABLE II: ANTIBIOTICOS DE ELECCION

ORGANISMO	ANTIBIOTICOS	
	PRIMER ORDEN	ALTERNO
COCOS GRAM POSITIVOS		
<i>Streptococcus pyogenes</i>	Penicilina G	Eritromicina
<i>Streptococcus viridans</i>	Penicilina G o Penicilina y Estreptomicina	Cefalotina, Vancomicina
Enterococos	Penicilina y Estreptomicina	Vancomicina
<i>Streptococcus anaerobius</i>	Penicilina G	Eritromicina, Vancomicina
<i>Diplococcus pneumoniae</i>	Penicilina G	Eritromicina, Clindamicina
<i>Staphylococcus aureus</i>		
sensitivo a penicilina	Penicilina G	Eritromicina, Clindamicina
resistente a penicilina	Meticilina	Cefalotina, Vancomicina, Lincomicina
BACILOS GRAM POSITIVOS		
<i>Clostridium welchii</i>	Penicilina G	Eritromicina
<i>Clostridium tetani</i>	Penicilina G	Eritromicina
<i>Corynebacterium diphtheriae</i>	Penicilina G	Eritromicina
COCOS GRAM NEGATIVOS		
<i>Neisseria meningitidis</i>	Penicilina G	Cloranfenicol
<i>Neisseria gonorrhoeae</i>	Penicilina G	Espectomicina, Eritromicina
BACILOS GRAM NEGATIVOS		
<i>Enterobacter</i>	Gentamicina	Kanamicina, Polimixina, Cloranfenicol
<i>Serratia</i>	Gentamicina	Kanamicina, Cloranfenicol
<i>Proteus mirabilis</i>	Ampicilina	Kanamicina, Cefalotina, Gentamicina
<i>Proteus otros</i>	Gentamicina	Kanamicina, Cefalotina
<i>Pseudomonas</i>	Gentamicina	Carbenicilina, Polimixinas
<i>Bacteroides</i>	Clindamicina	Cloranfenicol, Tetraciclina
<i>Hemophilus influenzae</i>	Ampicilina	Cloranfenicol
<i>Pasteurella (Franciella)</i>	Estreptomicina	Tetraciclinas
<i>Salmonella D</i>	Cloranfenicol	Ampicilina
<i>Shigella</i>	Ampicilina	Tetraciclina
<i>Escherichia coli</i>	Ampicilina	Gentamicina, Kanamicina, Tetraciclina
<i>Klebsiella pneumoniae</i>	Gentamicina	Kanamicina, Cefalotina
<i>Pseudomonas pseudomallei</i>	Tetraciclina y Sulfa	Kanamicina, Cloranfenicol y Sulfa
<i>Brucella</i>	Tetraciclina	Estreptomicina
ESPIROQUETOS		
<i>Treponema pallidum</i>	Penicilina G	Tetraciclina, Eritromicina
<i>Leptospiras</i>	Penicilina G	Tetraciclina
OTROS		
<i>Listeria monocytogenes</i>	Ampicilina	Eritromicina

ción de éste lo permite la ruta oral se prefiere. Las drogas interactúan unas con otras y debe tenerse precaución de no unir en una misma botella más de una droga, especialmente cuando se usa la ruta endovenosa. Cuando se usa más de una droga en el mismo paciente por ruta endovenosa es imprescindible usar el sistema de administración alternada y un horario regular para lograr la concentración plasmática deseada. La dosificación de los antibióticos más comunes se pueden ver en la Tabla III, al igual que la concentración que se logra en plasma con esa dosis. Para pacientes con enfermedad renal la dosis debe modificarse.

Una vez se comience la terapia antibiótica y la respuesta clínica es buena, la terapia debe continuarse por 3 a 5 días después que el paciente está afebril, si el paciente no responde a la terapia iniciada el cultivo y las

pruebas de sensibilidad del organismo deben usarse como guía de la terapia. La duración de la terapia en ciertas infecciones se acepta como un período específico de tiempo, por ejemplo en faringitis estreptococcica 10 días de terapia de penicilina; esta norma debe seguirse rutinariamente.

Hay ciertos principios que uno debe seguir en el tratamiento de procesos infecciosos:

1. Evite la combinación de antibióticos bacteriostáticos y bactericidas, siempre recordando que hay excepciones.

2. Esté seguro que no hay interferencia en vivo o in vitro, si se usa más de un antibiótico (Tabla IV).

3. Tenga paciencia, espere un tiempo razonable para que el antibiótico actúe (48-72 hrs.) antes de llamar el caso un fallo terapéutico y considerar cambiar o añadir

TABLA III: DOSIFICACION Y CONCENTRACION EN SUERO DE ANTIBIOTICOS COMUNMENTE USADOS

ANTIBIOTICO	DOSIS	CONCENTRACION EN SUERO ug/ml
Ampicilina	0.25-0.50 gm q6h PO 150-200 mg/kg/dia, IM, IV	1.0-2.8 17
Carbenicilina (Pyopen)	5.0 gm q4h IV	110-170
Cafalotina (Keflin)	0.5-3.0 gm q6h IM, IV	30-250
Cefalexina (Keflex)	0.25-0.5 gm q6h PO	8.3-38.0
Cloranfenicol	0.25-0.75 gm q6h PO 50.0 mg/kg/dia IV	3-6 8-14
Clindamicina (Cleocin)	150-450 mg q6h PO 1200-2400 mg/dia IV	1.9 3.0-15.0
Cloxacilina	0.25-0.50 gm q6h PO 0.25-0.50 gm q6h IV	9.6 3.5
Eritromicina	0.5-2.0 gr q 12h PO 1.0-4.0 gm/dia IV	0.4-1.8 ---
Gentamicina	0.8-5.0 mg/kg/dia en 3 dosis q8h IM, IV	5-7
Kanamicina	15 mg/kg/dia IM en 4 dosis q6h	14-29
Lincomicina	0.5 gm q6-8h PO 0.6 gm q8h IM, IV	4.6-12.0 8.0-40.0
Meticilina (Staphicillin)	1.0-2.0 gm q6h IM, IV	72.4
Penicilina G	600,000-1,200,000 U IM 10-20,000,000 U IV 1,600,000 U (1.0gm) PO	1-8
Estreptomycin	0.5-2.0 gm/dia IM	6-50
Tetraciclina	0.25-0.5 gm q6h PO 0.5-1.0 gm q12h IV	2-4
Vancomicina	0.5 gm q6h IV	25.0

TABLA IV: INCOMPATIBILIDADES EN LA ADMINISTRACION ENDOVENOSA DE ANTIBIOTICOS

ANTIBIOTICOS	DROGAS																			
	Antihistaminicos	Aminofilina	Anfotericina B	Acido ascorbico	Barbituricos	Sales de calcio	Clorpromazina	Clortetraciclina	Corticosteroides	Cloranfenicol	Carbenicilina	Cefalotina	Difenilhydantoina	Dramamina	Eritromicina	Gantrisin	Gentamicina	Heparina	Kanamicina	Lincomicina
Anfotericina B	+					+	+	+	+					+		+	+	+	+	
Ampicilina				+				+								+			+	
Carbenicilina			+							+			+			+			+	
Cefalotina				+	+	+	+	+				+	+	+		+	+	+	+	
Cloranfenicol				+			+	+	+	+			+		+	+	+	+	+	
Colistimatato sodico								+	+			+		+						
Eritromicina		+		+	+					+	+	+						+		
Gentamicina			+							+	+	+						+		
Kanamicina			+	+	+	+		+				+	+					+		
Lincomicina								+		+	+	+				+				
Meticilina		+		+	+	+	+	+								+	+	+		
Nafcilina								+												
Oxacilina	+															+	+			
Penicilina G		+	+	+	+	+		+				+	+				+	+	+	+
Polimixina B								+	+	+		+	+						+	+
Tetraciclina		+	+		+		+	+	+	+	+	+	+		+	+				+
Vancomicina		+					+	+	+					+		+				

antibióticos.

4. Si se necesita usar más de un antibiótico las indicaciones son, a) cubrir un espectro más amplio, b) prevenir el desarrollo de sepa resistentes, c) conocimiento previo que la combinación actúa sinérgicamente en una bacteria en específico.

5. No cambie el régimen de antibióticos cuando el cultivo demuestra una sepa resistente si el paciente tiene una buena respuesta clínica.

En resumen he presentado a vuelo de pájaro el mecanismo de acción de antibióticos, y la manera de comenzar a un paciente con una infección en un régimen de antibióticos apropiado.

Reconocimiento

Quiero expresar mi agradecimiento al Dr. Mario R. García Palmieri por revisar el manuscrito, su ayuda, consejo y estímulo y al Dr. Norman Maldonado por revisar y corregir el manuscrito

y hacer sugerencias muy valiosas.

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NOTA: Lista de referencias completas disponibles del autor.

THE CYCLOPLEGIC EFFECTIVENESS OF CYCLOPENTOLATE COMBINED WITH TROPICAMIDE

Manuel N. Miranda, MD

Cyclopentolate hydrochloride is at present regarded as the most effective short acting cycloplegic agent, especially for patients over 10 years of age. However, warnings have been sounded against the use of 2 percent cyclopentolate, and the repeated application of the 1 percent solution. For instance, Kennerdell and Wucher (1) reported recently two cases of grand mal seizure associated with the topical instillation of 2 percent cyclopentolate. The adverse reaction developed 30-60 minutes after applying a single drop. Others (2-10) have reported toxic effects such as disturbances of behavior or cerebellar function, after the use of 2 percent cyclopentolate or repeated application of a 1 percent solution.

No toxic effects have been observed when, after instilling a local anesthetic, a single drop of 1 percent cyclopentolate was used. This concentration proved to be sufficient in producing adequate cycloplegia in all eyes except dark brown or heavily pigmented ones.

At the 1971 annual meeting of the Puerto Rico Ophthalmological Society, I presented the results of a study (11) made with eyes of different colored irises, using 1 percent cyclopentolate hydrochloride in the right eye and 1 percent cyclopentolate hydrochloride and 1 percent tropicamide in the left.

In light irises (blue, green, light brown and medium brown) the cycloplegic effects were not significantly different. The right eyes showed a mean residual accommodation of 0.70 diopter and the left eyes showed a mean of 0.66 diopters. However, for eyes with dark brown irises the results were significantly different. The right eyes showed a mean of 2.22

diopters while the left eyes showed a mean of 0.77 diopters.

The purpose of the present study is to determine the most effective combination of 1 percent or lower concentrations of cyclopentolate and tropicamide for eyes with dark irises, and to reevaluate the effectiveness of cyclopentolate alone in eyes with light irises. To this end, two hundred cycloplegic refractions were performed in patients of from ten to thirty years of age.

Materials and Methods

One drop of proparacaine hydrochloride 0.5 percent was instilled in each eye. Then, one drop of 0.5 percent cyclopentolate hydrochloride was put into the right eye. The left eye was given one drop of 0.5 percent cyclopentolate hydrochloride, followed, within 25 seconds, by one drop of 1.0 percent tropicamide. This was the procedure used in the first one hundred patients. For the second hundred patients the procedure was the same, except that the 0.5 percent solution of cyclopentolate hydrochloride was replaced by a 1 percent solution, and the 1 percent solution of tropicamide by a 0.5 percent solution.

Thirty to forty minutes after the administration of the medication the patient's residual accommodation was measured in each eye.

A + 2.50 sphere was added to the cycloplegic refraction for distance, and the patients were asked to read the fine print of a card that was located sixteen inches in front of him. Minus spheres of gradually increased power were added to this combination until the print became blurred.

Patients with ocular pathology other than heterophoria, or with anisometropia of 1 diopter or more, and patients who could not attain 20/20 vision in each corrected eye, were excluded from the study.

Results and Discussion

Table I shows that all color groups had less residual accommodation where a combination of cyclopentolate and tropicamide was used.

The use of 1 percent cyclopentolate resulted in significantly less residual accommodation than the use

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TABLE I
FIRST HUNDRED PATIENTS (O. D. 0.5 PERCENT CYCLOPENTOLATE HYDROCHLORIDE -
O. S. 0.5 PERCENT CYCLOPENTOLATE HYDROCHLORIDE AND 1 PERCENT
TROPICAMIDE)

Color of Irises	MEAN RESIDUAL ACCOMMODATION IN DIOPTERS	
	O. D.	O. S.
Blue-Green		
11	0.81	0.78
Light Brown		
23	0.83	0.70
Medium Brown		
44	1.24	1.02
Dark Brown		
22	2.24	1.25

SECOND HUNDRED PATIENTS (O. D. 1 PERCENT CYCLOPENTOLATE HYDROCHLORIDE -
O. S. 1 PERCENT CYCLOPENTOLATE HYDROCHLORIDE AND 0.5 PERCENT
TROPICAMIDE)

Color of Irises	MEAN RESIDUAL ACCOMMODATION IN DIOPTERS	
	O. D.	O. S.
Blue-Green		
11	0.46	0.43
Light Brown		
19	0.55	0.53
Medium Brown		
44	0.88	0.72
Dark Brown		
26	2.13	1.11

TABLE II: DARK BROWN IRISES

Dose	MEAN RESIDUAL ACCOMMODATION IN DIOPTERS	
	O. D.	O. S.
O. D. 0.5 percent cyclopentolate		
O. S. 0.5 percent cyclopentolate +		
1 percent tropicamide	2.24	1.25
O. D. 1 percent cyclopentolate		
O. S. 1 percent cyclopentolate +		
0.5 percent tropicamide	2.13	1.11
O. D. 1 percent cyclopentolate		
O. S. 1 percent cyclopentolate +		
1 percent tropicamide	2.22	0.77

TABLE III

Combination	Residual Accommodation in Diopters
1 percent cyclopentolate + 1 percent tropicamide	1.25 or less in all patients
1 percent cyclopentolate + 0.5 percent tropicamide	1.25 or less in 70 percent of all patients 1.75 or less in all patients
0.5 percent cyclopentolate + 1 percent tropicamide	1.25 or less in 64 percent of all patients 2.00 or less in all patients

of 0.5 percent cyclopentolate.

Cyclopentolate 0.5 percent, alone or with 1 percent tropicamide, failed to lower the mean residual accommodation below 1 diopter, not only in eyes with dark brown irises, but also in those with medium brown irises.

The most significant finding was that cyclopentolate combined with tropicamide was far superior to cyclopentolate alone in eyes with dark brown irises; it lowered the mean residual accommodation to 1.25 or less.

No toxic effects were noted in any patient.

Table II presents once more the results obtained in eyes with dark brown irises, and in the third line are added the results of the previously reported study in which the combination of 1 percent cyclopentolate and 1 percent tropicamide was used.

All three combinations of cyclopentolate and tropicamide lowered the mean residual accommodation to an adequate cycloplegic level for refraction of eyes with dark brown irises. However, the combination of 1 percent cyclopentolate with 1 percent tropicamide proved to be the most effective.

Table III gives a summary of the results obtained for the three combinations investigated.

From this we conclude that:

1) The combination of 1 percent cyclopentolate and 1 percent tropicamide is sufficiently effective in eyes with dark brown irises, so that the use of 2 percent cyclopentolate, or the repeated use of 1 percent cyclopentolate with its attending risk of toxicity can and should be abandoned.

2) The combination of 1 percent cyclopentolate and 0.5 percent tropicamide is nearly as effective as that of 1 percent cyclopentolate and 1 percent tropicamide, and therefore, could be used as an alternate.

It seems that tropicamide, which in the 0.5 percent concentration is considered essentially a mydriatic, nevertheless enhances the cycloplegic effect of cyclopentolate, probably by making the parasympathetic receptors of the ciliary body more susceptible or more penetrable to it.

Summary

Two hundred cycloplegic refractions were performed in patients of from ten to thirty years of age. In the first one hundred 0.5 percent cyclopentolate hydrochloride was used in the right eye and 0.5 percent cyclopentolate hydrochloride followed by 1 percent tropicamide in the left. For the second hundred patients the procedure was the same, except that 0.5 percent of cyclopentolate was replaced by a 1 percent solution, and the 1 percent solution of tropicamide by a 0.5 percent solution. All eyes had less residual accommodation where a combination of cyclopentolate and tropicamide was used. The use of 1 percent cyclopentolate resulted in significantly less residual accommodation than the use of 0.5 percent cyclopentolate. Cyclopentolate 0.5 percent, alone or with 1 percent tropicamide, failed to lower the mean residual accommodation below 1 diopter, not only in eyes with dark brown irises, but also in those with medium brown irises.

Resumen

Se practicaron 200 refracciones cicloplégicas en pacientes de diez a treinta años de edad. En los primeros cien pacientes se usó ciclopentolato al 0.5

por ciento en el ojo derecho y ciclopentolato al 0.5 por ciento seguido de tropicamida al 1 por ciento en el izquierdo. Para los segundos cien pacientes el procedimiento que se siguió fue igual excepto que el ciclopentolato al 0.5 por ciento fue substituído por una solución al 1 por ciento y la solución de tropicamida al 1 por ciento fue substituída por una al 0.5 por ciento.

En todos los ojos en los cuales se usó una combinación de ciclopentolato y tropicamida la acomodación residual fue menor. El uso de ciclopentolato al 1 por ciento produjo una acomodación residual significativamente menor que el uso de ciclopentolato al 0.5 por ciento. Ciclopentolato al 0.5 por ciento, solo o con tropicamida al 1 por ciento, fallo en reducir en menos de una dioptría, el promedio de la acomodación residual, no solamente en irises pigmentados, sino que también, en irises de color castaño mediano.

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SINDROME DE SMITH-LEMLI-OPITZ CON CARDIOPATIA CONGENITA. REPORTE DE UN CASO Y REVISION DE LA LITERATURA

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Smith, Lemli y Opitz (1), reportaron en el 1964 un caso con retardación en el desarrollo somático y psíquico, microcefalia, displasia craneofacial, facies típica con anteversión de las alas nasales, micrognatia, encías gruesas, orejas de inserción baja, trastornos del sistema neoromuscular y desarrollo incompleto de los genitales externos masculinos. La condición es hereditaria, con herencia mendeliana autosómica recesiva (2). Se presenta en ambos sexos, siendo su diagnóstico más fácil en el varón debido a anomalías de los genitales externos.

Hatas el momento, se han reportado en la literatura mundial 40 casos (1, 3-19). El síndrome no ha sido reportado previamente en nuestra isla, pero conocemos de un caso bajo la evaluación del Dr. García Castro (20).

El propósito de esta comunicación es reportar un caso evaluado en el Hospital Dr. Ramón E. Betances y recalcar la frecuencia de anomalías cardíacas en el Síndrome de Smith-Lemli-Opitz, siendo éste el noveno de los casos afectados con anomalía cardíaca.

Reporte del Caso

J. C., es el primer hijo varón de una madre de 27 años de edad, grava I, para I, aborto O, y un padre, no consanguíneo, de 28 años de edad. Debido a sangría vaginal en el tercer trimestre (abruptio placenta) el niño nació por cesárea en un hospital de Nueva York, estimándose su gestación en 33 semanas. Pesó 1,970 gramos al nacer con una circunferencia craneana de 31 cms. y una estatura de 47 cms. Presentó un Apgar de 1 debido a un ritmo cardíaco inferior a 40 latidos por minuto, inmovilidad, cianosis y falta de movimientos respiratorios. Fue resucitado respondiendo ligeramente a oxígeno a presión positiva. Pocos minutos después de nacer el ritmo cardíaco bajó a cero, requiriendo tratamiento intensivo con adrenalina intracardíaca, glucosa hipertónica, bicarbonato y más adelante THAM. A la media hora presentaba un Apgar de 3, establecien-

do respiraciones espontáneas a la hora y media. Presentaba, además, hipospadias severo, soplo sistólico gr. I-II/IV y orejas de inserción baja.

A los 16 días de edad se notó fallo cardíaco requiriendo digitalización y mantenimiento posterior con Digoxin. Un cateterismo cardíaco al mes de edad demostró presión sistémica en el ventrículo derecho, y una comunicación interventricular. Las radiografías de pecho mostraron agrandamiento cardíaco con vascularidad pulmonar pronunciada.

El niño se desplazó a Puerto Rico a la edad de 4 meses, siendo evaluado y seguido en la sección de Cardiología Pediátrica del hospital Dr. R. E. Betances de Mayagüez. Los hallazgos electrocardiográficos mostraron el eje de QRS con una dirección superior a -45° , el cual es compatible con un defecto de cierre del cojinete endocárdico. Presentaba, además, hipertrofia biventricular. Al año de edad le fue practicado un cateterismo en el Hospital Universitario de Río Piedras, el cual reveló una comunicación interventricular, un conducto arterioso patente e hipertensión pulmonar.

Al año y medio de edad nos fue referido a la clínica de problemas genéticos donde los hallazgos de su examen físico (Fig. 1) nos inclinaron a pensar en el síndrome de Smith-Lemli-Opitz con cardiopatía congénita. Presentaba microcefalia, ligera ptosis palpebral, escafocefalia, orejas de inserción baja, anteversión de las alas nasales, encías gruesas, micrognatia, hipospadias severo (Fig. 2), y sindactilia parcial de los dedos 2 y 3 del pie. Su estatura y peso están por debajo de la tercera percentila para su edad.

El estudio dermatoglífico (Fig. 3) mostró dos tipos básicos en la mano derecha (bucles y espirales) y en la mano izquierda 3 patrones básicos (bucles, espirales y arco en tienda). El ángulo atd derecho es de 56° y el izquierdo de 85° . En ambas palmas presenta un surco de simio parcial, y en ambas se observa una espiral a nivel del cuarto espacio interdigital. Se observa además un arco cubital en el área hipotenar de la palma derecha y en la misma área izquierda se observa un patrón de abanico. El recuento dérmico en la mano derecha es de 67 y en la izquierda de 56, con un recuento dérmico total de 123. Las plantas del pie presentan un bucle distal grande en área halucal y además, un bucle grande de apertura proximal a nivel del cuarto dedo.

La prueba de desarrollo Denver a los 2 años de edad, revela un ligero retardo en las áreas personal-social y adaptivo-motor fino.

El estudio cromosómico revela un complemento cromosómico 46, XY.

De la Sección de Endocrinología Pediátrica y Genética Médica, y de la Sección de Cardiología Pediátrica del Hospital Dr. R. E. Betances, Centro Médico de Mayagüez.



Fig. 1: J. C. R. Obsérvese ligera ptosis palpebral, escafocefalia, anteversión de alas nasales, orejas de inserción baja y retro-micrognatia.

Discusión

Las anomalías descritas en los casos reportados del síndrome de Smith-Lemli-Opitz se resumen en la Tabla I, con el índice de frecuencia, incluyendo los 40 casos reportados más el nuestro.

Hasta el momento todos los casos reportados han presentado retardo del crecimiento al igual que retardo mental. Nuestro paciente presenta un ligero déficit en su desarrollo psicomotor, el cual es difícil de valorar por los patrones actuales hasta que alcance una edad de 3 años cuando se pueda aplicar la escala de Stanford-Binet. La facies de nuestro paciente es similar a los casos reportados, encontrándose todos los hallazgos reportados, salvo cataratas, paladar hendido y epicantero.

De los 41 casos reportados 9 han presentado cardiopatía congénita, como se observa en la Tabla II. Se observa que el defecto de cierre del cojinete endocárdico

(88 por ciento) y el conducto arterioso patente (88 por ciento) son las anomalías más frecuentes en el síndrome. El defecto de cierre del cojinete endocárdico más frecuente es el completo (55 por ciento).

El hecho de que un 21.9 por ciento de los pacientes reportados presenten defectos cardíacos recalca la importancia de este síndrome en el período embrionario donde está envuelto el desarrollo cardíaco.

En el análisis dermatoglífico observamos 2 espirales digitales en cada mano y una espiral en el cuarto espacio interdigital de cada mano. Su ángulo atd derecho está en el límite de lo normal (21) y el izquierdo es elevado, distal. Presenta un surco de simio parcial (incompleto) bilateral. Informes previos, indican un predominio de espirales, en presencia de surco de simio y ángulo atd variable (1, 6).

Resumen

El síndrome de Smith-Lemli-Opitz se caracteriza



Fig. 2: *Hipospadias severo. Testículos descendidos.*



Fig. 3: *Dermatoglifos.*

por retraso pondoestatural y psicomotor, anomalías craneofaciales y anomalías genitales en los varones.

Se reporta en este artículo un niño de año y medio de edad con los caracteres típicos de este síndrome que presenta, además, cardiopatía congénita. Al revisar la literatura encontramos que de los 41 casos reportados (incluyendo el nuestro), el 21.9 por ciento presentan cardiopatía congénita, lo cual recalca la importancia de cardiopatías en la condición. Entre las anomalías cardíacas, el conducto arterioso patente y los defectos de cierre del cojinete endocárdico son los más comunes.

Summary

The Smith-Lemli-Opitz syndrome is characterized by failure to thrive, psychomotor retardation, craneofacial anomalies, and abnormal genitalia in males. This paper concerns the forty first case reported in the literature and the ninth case with associated congenital

heart disease. Our patient had a ventricular septal defect and a patent ductus arteriosus. Congenital heart disease has now been reported in 21.9 percent of patients with this syndrome, suggesting that the association is significant.

Reconocimiento

Agradecemos al Dr. J. R. Gómez del Hospital Universitario del Centro Médico de Puerto Rico el estudio angiocardiográfico, a la Dra. Ruth Stein de la Escuela de Medicina Albert Einstein de Nueva York por el resumen del período perinatal, al Sr. William Pérez del Centro Médico de Mayagüez por la iconografía, y a la Sra. Olga Alvarez por la prueba de desarrollo Denver.

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TABLA I
HALLAZGOS CLINICOS MAS IMPORTANTES DEL SINDROME DE
SMITH-LEMLI-OPITZ

Anomalías	Literatura	Nuestro Paciente	Frecuencia Por Ciento
Retardo en crecimiento (hiposomatotrofismo)	40/40	+	100
Retardación mental	40/40	+(leve)	100
Microcefalia	39/40	+	97.5
Neuromuscular			
hipertónico	9/40	—	21.9
hipotónico	20/40	—	48.7
tonicidad no mencionada	11/40	Normal	29.2
Facies			
Fosas nasales antevertidas	30/40	+	75.6
micrognatia	34/40	+	85.3
encías anchas	22/40	+	56.1
ptosis palpebral	26/40	+	65.8
orejas de inserción baja	20/40	+	51.2
pliegues epicánticos	19/40	—	46.3
paladar hendido	15/40	—	36.5
cataratas	5/40	—	12.1
Sistema Gastrointestinal		—	
vómitos frecuentes en infancia	14/40	—	34.1
estenosis pilórica	5/40	—	12.1
Sistema genitourinario			
varones			
hipospadias con o sin criptorquidia	25/26	+	96.2
hembras			
genitalia externa normal	14/14		100.
Extremidades			
Sindactilia cutánea dedos 2-3 del pié	30/40	+	75.6
Surco de simio (completo o parcial)	25/40	+	63.4
Complemento cromosómico normal	21/21	+	100. *
Desarrollo óseo retrasado	1/40	Normal	
T ₄ bajo	1/40	Normal	
Defecto cardíaco congénito	8/40	+	21.9

* de los estudiados

TABLA II: ANOMALIAS CARDIACAS REPORTADAS EN EL SÍNDROME DE SMITH-LEMLI-OPITZ

1. Kenix y colabs. (16)	Comunicación interauricular conducto arterioso patente.
2. Lowry y colabs. (7)	a. Defecto de cierre, completo, del cojinete endocárdico, conducto arterioso patente.
3. " "	b. Defecto de cierre, incompleto, del cojinete endocárdico, conducto arterioso patente y coartación de aorta.
4. Sussman y colabs. (9)	Tetralogía de Fallot
5. Dellaire (15)	Tetralogía de Fallot
6. Opitz y colabs. (12)	Comunicación interauricular con deformidad de válvula pulmonar, arco aórtico derecho y conducto arterioso patente.
7. " "	
8. Robinson y colabs. (19)	Defecto de cierre, incompleto, del cojinete endocárdico, ostium primum, conducto arterioso patente.
9. Pérez-Comas y López-Glez.	Comunicación interventricular, conducto arterioso patente.

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EDITORIAL

TRAUMA CAN BE CONQUERED

Accidental death and disability is the neglected disease of modern society. Trauma or accidental injury is one of the nation's most important environmental health problems. In 1972 fifty-two million Americans suffered accidental injuries, 11.4 million of which were disabling to some degree. There were 117,000 deaths and 420,000 permanently disabled at a national cost of \$32.3 billion. This incredible killer took the lives of 56,000 from traffic accidents alone - more Americans than were lost in the Korean Conflict.

Accidents are the leading cause of death among persons between the ages of one and 37, and they are the fourth leading cause of death of all ages. The tragedy of the high accidental death rate is that trauma kills thousands who otherwise could expect to live long and productive lives, whereas those afflicted with malignancy, heart disease and stroke usually die late in life. Thus, many more millions of productive man hours are lost because of death from accidents than from chronic diseases among older persons.

The human suffering and financial loss from preventable accidental death constitute a public health problem second only to the ravages of ancient plagues and world wars. In the past 60 years more Americans have died from accidents than from combat wounds in all our wars. The knowledge and equipment to prevent many such deaths exist today, but, tragically, the ability to deliver them at the critical point is lacking. Public apathy is one of the greatest hurdles in this field. The public finds injury and trauma distasteful and would rather not think of it. The stimulation of greater public awareness of trauma as a major health problem requires urgent attention.

Through the efforts of two very successful voluntary health agencies, cancer and heart disease have become household words. Nearly everyone knows how to contribute time, energy, skills and money to the American Cancer Society and the American Heart Association. The essence of these agencies is mutual respect and cooperation between members of the medical profession and lay people working together to achieve common goals. These goals include prevention, early detection and treatment, public education, service, legislation and research. While there are only 320,903 physicians in active practice in the entire United States, the American Cancer Society and the American Heart Association each claim more than two million volunteers. Through their efforts the public has been awakened to the problems of cancer and heart disease. The average citizen has been given the means by which he can help himself and by which he can satisfy his inherent desire to help his fellow man.

The American Trauma Society, an organization patterned after the Cancer Society and the Heart Association, has been formed in an attempt to bring the energy of all citizens to bear upon the problem of accidental death and disability. By mobilizing these forces behind research, training, education, emergency facilities and community organization, it seeks to reduce trauma's appalling toll and to improve the care of the fifty-two million injured annually.

Conceived in 1967, organized in 1971 and chartered in 1972 in the State of Delaware as a non-profit organization, The American Trauma Society now has a Board of Directors of 56 members

divided between medical and lay community leaders. To date over 1600 founding members have contributed \$100 each and committed themselves to work at both the state and national levels. Governor George C. Wallace of Alabama, who knows very well the tragic effects of trauma and the importance of prompt and skillful emergency medical care, is one of a number of prominent laymen on the Board of Directors. Other leaders are joining forces with this rapidly expanding organization to move it into a position of national influence. Already nine states have formed divisions: Illinois, Pennsylvania, Texas, Georgia, New York, Ohio, Maryland, California, Utah and several others are nearing certification.

The eight goals of the American Trauma Society are:

1. Educate and involve the public in better organization for the emergency care of the injured victim. Develop a community council on emergency medical services in every county or community to organize emergency services.
2. Upgrade ambulance services to insure that all calls are promptly screened, attendants are highly trained, ambulances are properly designed, equipped and dispatched, traffic lanes and communications lines are kept open, casualties are distributed to assigned hospitals, and helicopter ambulance service is provided when needed — all designed to provide earlier and better life support.
3. Provide prompt voice communication between the site of the accident and the hospital emergency department so that the extent of injuries may be reported and the victim's immediate care ensured both at the scene and upon arrival at the hospital.
4. Utilize radio frequency channels to link fire and police with hospital and ambulance personnel; provide emergency telephones in remote areas and a universal emergency number for all dial phones all over the country.
5. Enlarge and improve general and specialized emergency care facilities in hospitals which provide 24 hour staffing by physicians, trained in handling life-threatening injuries. Have patients delivered to the hospital best equipped to handle each special problem.
6. Sponsor broad programs of research into the prevention and treatment of injuries so as to minimize their disabling effects upon society and industry.
7. Initiate first aid training in the schools so every American citizen will receive a basic course.
8. Systematically collect data on the causes of injury in each community and systematically apply this knowledge to their prevention.

The problem of trauma in this country is far more immense than is commonly recognized. Most of us see it only in bits and pieces — brief accounts of accidental injuries to individuals in homes, on the street and at their jobs. Few of us comprehend the tragic and costly aftermath of such injuries and few of us can guess what it totals in irretrievable loss to individuals, families and the nation.

The challenge of trauma lies before the American people. The American Trauma Society is one positive step towards focusing attention on this problem. Let us hope that physicians will take the leadership in mounting a great crusade against this killer. Concerned groups working together can create programs in all spheres of scientific, clinical and community endeavors and overcome the challenge of accidental injury.

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RESUMENES DE TRABAJOS PRESENTADOS EN EL PROGRAMA CIENTIFICO - ASAMBLEA ANUAL 1974

CHRONIC HEMODIALYSIS IN CHILDREN AND ADOLESCENTS

José F. Pascual, MD, Aurea Muñoz, MD and María T. Meléndez, MD, Pediatric Nephrology Division, San Juan City Hospital.

Hemodialysis is now an acceptable mode of therapy for children with end-stage renal disease. A pediatric Hemodialysis Unit was established at the San Juan City Hospital in December 1971. Seven patients, age 4 to 21 years, have been dialyzed from December 1971 until July 1974, for a total of 888 dialysis. Duration on dialysis ranged from four months to 30 months.

There are some similarities and considerable differences in the problems of children and adults undergoing chronic hemodialysis. The most desirable and obvious goal is to return renal function to normal through renal transplantation.

SURVIVAL PARAMETERS FOR RENAL PRESERVATION

Eduardo A. Santiago Delpín, L. H. Toledo-Pereyra, A. W. Moberg, C. O. Callender, T. J. Buselmeier, C. M. Kjellstrand, R. L. Simmons, J. S. Najarian, Department of Surg., U. of Minnesota, MPLS, MN, and Surg. Res. Lab., U. P. R. Med. School, San Juan, Puerto Rico

Renal preservation in recent years has improved logistical simplicity and organ quality and salvage in renal transplantation. But what parameters in donor and recipient, and in the preservation itself, alter organ survival? 108 kidneys were preserved from May 1971 to May 1973, in a commercially available perfusion machine, of which 14 were not used because of lack of recipient, preservation failure, or poor initial flow, and 11 could not be analyzed because of incomplete data or follow-up (6 mos.)

The remaining 83 were analyzed for deaths, kidney

loss and post-transplant function. Function was plotted against donor creatinine, BUN and age, warm and cold ischemia, initial and change in flow, initial and change in pulse pressure, and recipient age, by Multiple Linear Regression.

The 10 independent variables when put together, explained 45 percent of the variation in the dependent variable (function) ($p < .001$). However, only long warm ischemia ($p = .05$), poor initial flow ($p = .05$) and older recipient age ($p < .01$) correlated significantly with poorer kidney function. Patients with fair or poor initial function lost their kidneys more frequently than those with good initial function ($p = .002$), but did not die more frequently.

CHLORAMBUCIL IN THE TREATMENT OF MINIMAL LESION STEROID DEPENDENT NEPHROTIC SYNDROME OF CHILDHOOD

José F. Pascual, MD, Aurea Muñoz, MD, and María T. Meléndez, MD, Pediatric Nephrology Division, San Juan City Hospital.

Litt data is available in the treatment of the minimal lesion, steroid-dependent, nephrotic syndrome of childhood with chlorambucil.

Five children with steroid-dependent nephrotic syndrome received 0.2 mgm/Kgm. chlorambucil and 10 mgms. Prednisone daily for ninety days.

Renal biopsy on all five children with steroid-dependent nephrotic syndrome showed minimal change lesions on both light and electron microscopy. All five children became protein-free; four of them have remained protein-free and one has had a decrease in the number of relapses.

Only apparent complication is leukopenia which is

transient and completely reversible.

Chlorambucil can be of value in the treatment of the steroid dependent, minimal lesion, nephrotic syndrome of childhood. Toxicity appears to be non-existent so far.

CYSTINOSIS PRESENTING AS BARTTER'S SYNDROME

José F. Pascual, MD, Carmen A. Sáenz, MD, and Hernán Sabio, MD, Department of Pediatrics, San Juan City Hospital.

The association of cystinosis and Bartter's syndrome has not been previously described. Chronic renal failure is not usually a feature of Bartter's syndrome, although it has been occasionally reported. At the San Juan City Hospital we have followed a patient with Bartter's syndrome and chronic renal failure, who later was found to have cystine crystals in the bone marrow and in the cornea, compatible with cystinosis.

R. O. presented with vomiting, dehydration, polyuria, and polydipsia in the neonatal period. Associated features were salt craving, failure to thrive, and hypokalemic alkalosis. Renal biopsy showed hyperplasia of the juxtaglomerular apparatus as seen in Bartter's syndrome. Plasma renin activity was found to be markedly elevated, however aldosterone levels were normal. The patient was found to be normotensive and had a blunted pressor response to infusion of angiotensin II.

At about 5 yrs. of age he developed signs of progressive renal failure, eventually requiring chronic hemodialysis. After undergoing hemodialysis for a period of 8 months the patient was found to be pancytopenic and to have splenomegaly. Bone marrow aspiration showed multiple clusters of crystals suggesting cystinosis. Slit lamp examination of the cornea confirmed the presence of cystine crystals.

This previously undescribed association of Bartter's syndrome and cystinosis suggests the possibility that some of the reported cases of Bartter's syndrome with chronic renal failure may have had cystinosis as an underlying condition.

PULMONARY CHANGES IN EXPERIMEN-

TAL LUNG TRAUMA

Abel González, MD, Iván Figueroa, MD, Reynold López, MD, Abelardo Alvarez, MD, E. Santiago Delpín, MD, J. O. Just-Viera, MD. From the Surgical Research Laboratories and Dept. of Surgery of the University of Puerto Rico Medical School, and the Dept. of Surgery of the San Juan City Hospital.

Severe lung trauma alone results in large morbidity and mortality, and certainly, when compounded by multiple body trauma the problem is even worse. Since this problem is achieving almost epidemic proportions in our mobile society, we wanted to evaluate a model of isolated pulmonary contusion and its effect on gas dynamics and survival, preliminary to a larger project geared to the pharmacologic treatment of lung contusion.

Twenty one mongrel dogs weighing 15 to 40 lbs. were anesthetized, intubated, placed on a lateral position, and traumatized each with iron weights ranging from 30 to 35 lbs. dropped from a standard height of 5 ft on a rigid wood board overlying the dog's chest. After recovery from anesthesia they were observed for activity and survival. Arterial blood gases were done before, 15 minutes post, and 2 hours post trauma. Chest X-rays were taken 15 and 120 minutes after trauma. Results are shown in the table.

Trauma to Body- Weight Ratio	Contusion Achieved		X-Rays	Mortality Percent	
	Bilat	Unilat			
1.75 or double blow	8	0	+	50	
1.75	0	13	+	0	

Trauma to Body- Weight Ratio	pO ₂ (mmHg)			pCO ₂ (mmHg)		
	Pre	Post	Statist	Pre	Post	Statist
1.75 or double blow	89	60	p=.005	32	46	p=.05
1.75	89	89	N.S.	32	30	N.S.

Thus, morbidity and mortality in pulmonary trauma is associated to the severity of the impact and to the presence of bilateral pulmonary damage. Bilateral pulmonary damage consistently and significantly diminishes the pO₂ and raises the pCO₂. This can be used as a predictive parameter. Significant changes in pO₂ and pCO₂ mean severe bilateral contusion and a high risk, with a mortality of 50 percent. Patients with chest trauma should be closely observed with sequential blood gases and chest X-rays, so as to detect and treat the high-risk subgroup early.

ATTENUATED INFLUENZA VIRUS INTRANASAL VACCINE IN A HIGH RISK MALE POPULATION

Ramón H. Bermúdez, MD, F. Pérez Rodríguez, MD, Yasushi Togo, MD, V. A. Hospital, San Juan, P. R. and University of Maryland, Baltimore, Maryland.

A group of volunteers was obtained from patients suffering from cardiac, metabolic and pulmonary diseases. Half of this so-called "high risk population" received a recently developed intranasal live attenuated vaccine (Alice strain and the other half was given parenteral vaccine (killed). Intranasal vaccine (IV) was given in two doses, two weeks apart; the parenteral vaccine (PV) was given as a single subcutaneous injection. Antibody levels were determined prior to and thirty days after initial vaccination. The vaccine take rate among the Alice strain recipients with initial antibody titers of 1:32 or less, was 62.5 percent, using the hemagglutination-inhibition antibody method. The highest antibody titer with IV at 30 days was 1:512 in 8.5 percent of the patients; for PV it was 1:4096 in 10.2 percent. With IV, 36.2 percent of the patients had no change from initial titer. By contrast, only 6.1 percent of the patients receiving PV did not respond. Furthermore, 79.5 percent of PV patients had titers above 1:128 while this was only the case in 33.4 percent of IV Patients. Four patients who received IV had influenza like symptoms, not confirmed by serological studies. Although PV stimulates higher serum antibody levels, IV stimulates greater local antibody production which is crucial in the prevention of influenza.

INFUSION DE FLUOROURACIL POR 120 HORAS-SUPERIORIDAD SOBRE OTROS MÉTODOS DE ADMINISTRACIÓN

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Por muchos años Fluorouracil ha sido la piedra angular de la quimioterapia de cáncer gastrointestinal. Está firmemente establecido en la literatura médica el beneficio objetivo tanto como subjetivo que esta droga produce en esos casos. Más recientemente se ha docu-

mentado el hecho de que además de mejorar la calidad de sobrevivencia se prolonga el tiempo de vida en los que son tratados con esta droga.

Sin embargo no está todavía bien establecido el mejor método de administración de la misma. Hace un año criticamos ante esta asamblea el régimen que recomienda el manufacturero en las instrucciones para el uso de la droga con el visto bueno de la Administración de Alimentos y Drogas (FDA). Consideramos que este régimen es obsoleto y peligroso. Presentamos, en aquella ocasión, nuestra experiencia administrando Fluorouracil en forma semanal. Con este método hemos obtenido resultados superiores y con menor toxicidad. Presentamos además, nuestra experiencia preliminar con la administración de Fluorouracil en infusiones continuas de 120 horas que sugería, en aquel momento, superioridad sobre regímenes anteriores.

Durante el curso de los últimos 18 meses hemos tratado un total de 46 pacientes con infusión de Fluorouracil por 120 horas. En pacientes con cáncer de estómago hemos obtenido respuestas objetivas en un 60 por ciento. En cáncer colorectal el 54 por ciento de los pacientes tuvieron respuestas objetivas: 62.5 por ciento colon; 42.8 por ciento recto.

Creemos que este régimen de tratamiento es superior a los anteriores y produce menor toxicidad. Estamos diseñando combinaciones del mismo con otras drogas tales como BCNU en un esfuerzo por obtener aun mejores resultados.

EFFECTIVE PROTECTION WITH STEROIDS IN EXPERIMENTAL LIVER ISCHEMIA.

Luán Figueroa, MD, E. A. Santiago Delpín, MD, MS.

Extensive liver surgery such as is performed for severe liver trauma or liver tumors is always handicapped by the accompanying massive blood loss. Thus, temporary occlusion of liver inflow would be ideal if it were not for the liver's relatively low tolerance to ischemia. We have attempted to protect the liver with steroids during warm ischemia so as to increase safely and consistently this interval.

2.0 to 3.0 kg rabbits were anesthetized, heparinized, and a laparotomy performed. Total hepatic ischemia was produced by ligating the portal triad and gastrophrenic ligament for 30 minutes with an umbilical

tape. This resulted in survival of only 10 percent (2/19) by the 7th day, the majority dying in 24 hours. If methylprednisolone (30 mg/kg) was given immediately *before* total hepatic inflow occlusion, 100 percent (11/11) of the animals survived ($p < .0002$). If methylprednisolone was given immediately *after* occlusion, as survival of 54 percent (6/11) was obtained ($p = .025$). Pathology showed various degrees of necrosis in the controls and milder changes in the pre-treated group. In further experiments extending occlusion to 1 hour, with methylprednisolone given *before* occlusion, 50 percent (4/8) of the animals survived ($p = .05$).

Methylprednisolone protects the liver during warm ischemia especially if given before occlusion, and dramatically decreases the mortality from this maneuver.

ESOPHAGEAL CANCER: A STUDY OF 58 PATIENTS SURVIVING 5 OR MORE YEARS

José E. Silva-Ayala, MD and Jorge O. Just Viera, MD. From the Department of Surgery, Section of Thoracic and Cardiovascular Surgery, San Juan City Hospital, San Juan, Puerto Rico.

A total of 4342 cases of esophageal cancer were reported to the Tumor Registry of Puerto Rico from 1950 to 1971. There were 2990 males and 1352 females. *Of these, 58 patients have survived five or more years after histologic diagnosis.* Pertinent clinical data will be presented, including age distribution, histology, location of tumor, presence or absence of tumor extension at the time of treatment, and subsequent clinical course.

Thirty three patients are alive. In this group, 19 have survived between five and ten years, five between 10 and 20 years and one more than 20 years. Cancer has recurred at the original tumor site up to 20 years after treatment. There were eight patients with upper third malignancy, 25 with middle third and 25 with lower third tumors. The average survival was 10, 9 and 8 years respectively.

This experience has led us to stress staging of the disease before instituting treatment. Our current approach will be discussed. It includes preliminary bronchoscopy, esophagoscopy, supraclavicular and celiac node biopsies, liver biopsy when necessary and scintigram studies if indicated. Information obtained permits objective selection of patients for cure or

palliation by appropriated combinations of surgery, radiotherapy and chemotherapy (Modified Cooper's Regime and Immunotherapy).

IMPORTANCIA DE LA ESCINTIGRAFIA HEPATICA

Drs. René Dietrich, Aldo F. Lanaro, Arístides H. Sarmiento, División de Medicina Nuclear, Centro Nuclear de Puerto Rico.

La gamagrafía del hígado es un método de gran sensibilidad para la detección de lesiones ocupantes de espacio, así como en la evaluación de diversas enfermedades hepatocelulares.

En el presente trabajo se analiza la interpretación de la escintigrafía hepática y los autores presentan su experiencia de varios años en estudios de pacientes referidos a la División de Medicina Nuclear del Centro Nuclear de Puerto Rico.

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En el presente trabajo se analiza la interpretación de la escintigrafía hepática y los autores presentan su experiencia de varios años en estudios de pacientes referidos a la División de Medicina Nuclear del Centro Nuclear de Puerto Rico.

Se discute el gamagrama normal y las múltiples variaciones anatómicas que pueden dar lugar a errores en la interpretación.

Se ilustran cambios en la posición del órgano consecutivos a alteraciones del diafragma, ascitis y malformaciones congénitas. Alteraciones en el "scan" debido a lesiones en órganos adyacentes y se discute la importancia de la complementación con pruebas centellográficas dinámicas de estos órganos. Finalmente se presenta gamagrafías de lesiones intrahepáticas tumorales, traumáticas e infecciosas. Se destacan la importancia de esta sencilla técnica y se comparan los estudios con otros medios diagnósticos o la confirmación patológica.

ACHIEVEMENTS OF A DETECTION PROGRAM FOR CANCER OF THE UTERUS IN

PUERTO RICO

Isidro Martínez, MD, Cancer Control Program, Department of Health, Santurce, Puerto Rico

Although the incidence of cervix-uteri cancer in Puerto Rico rose from 29.6 cases per 100,000 women in 1950 to 45.2 in 1970, reported mortality from cancer of the uterus has decreased from 20.6 in 1950 to 12.5 in 1970. *Carcinoma in Situ* was diagnosed in 5 percent of all cases of cancer of the cervix in 1950, in comparison with 50 percent in 1970. In invasive cases Stage III predominated up to 1956 as against Stages I and II in 1970. The Pap test screening is the most important factor responsible for this change.

MULTIPLE MYELOMA RESEMBLING RETICULUM CELL SARCOMA

Pedro A. Mora, MD, José González, MD, J. M. Vázquez, MD, Rafael Rizek, MD and E. de León, MD

The presence of multiple Myeloma coexisting with or resembling reticulum cell sarcoma has been described.

We are presenting the case of a 52-year old female who was admitted to San Juan City Hospital because of a soft tissue mass involving the gingiva and invading right maxilla in which the biopsy was consistent with the diagnosis of Reticulum Cell Sarcoma initially. Further studies including bone marrow aspiration and biopsy were consistent with Multiple Myeloma. Serum electrophoresis showed a definite monoclonal gammopathy which on immunoelectrophoresis was a gamma G band. Bence-Jones proteinuria was present and proven to be light chains by electrophoresis. Bone marrow and soft tissue mass biopsies were repeated and studied with electron microscopy and immunofluorescence. These revealed very immature plasma cells, lymphoplasmacytic elements and pseudohistiocytic probably

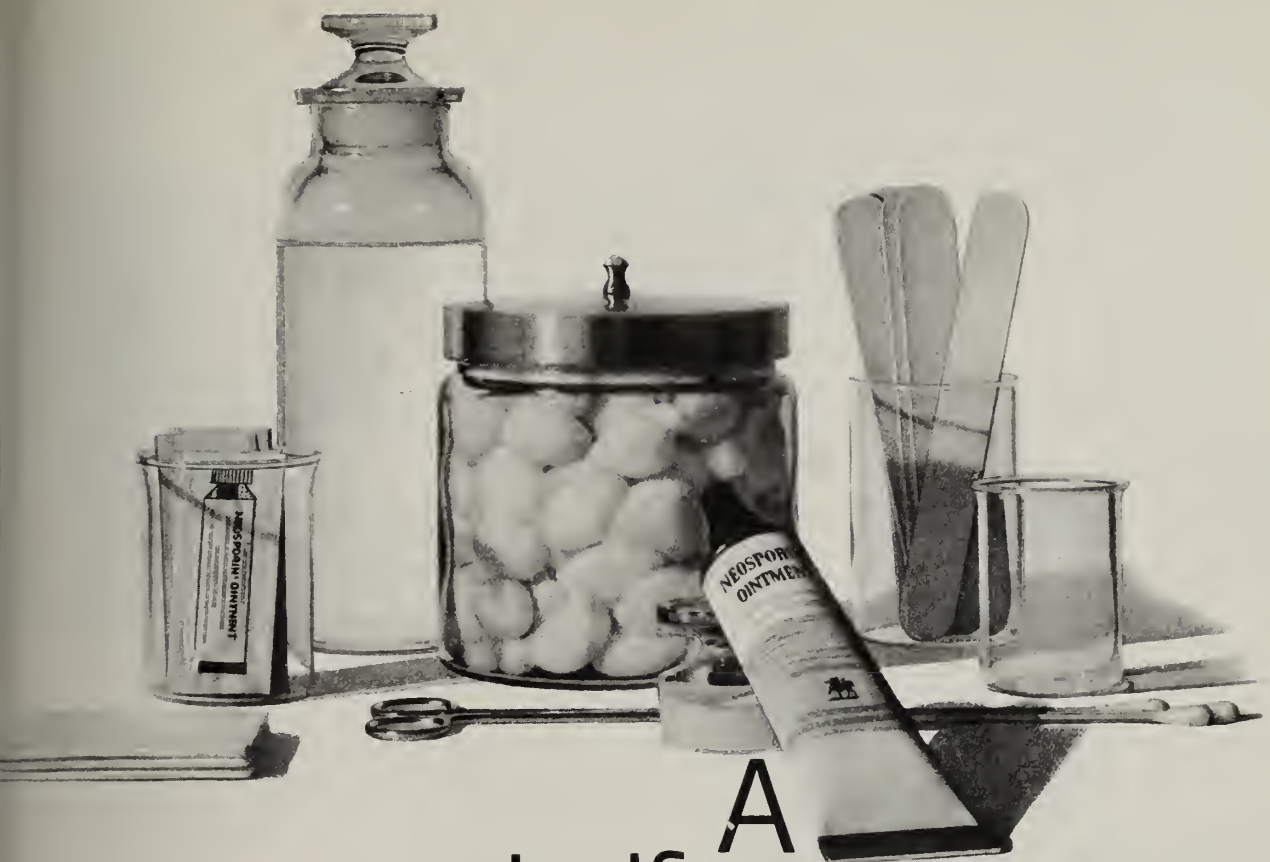
B type lymphocytes.

All the above mentioned findings together with the presence of multiple organ and osseous involvement makes this case a very unusual one and shows the importance of electron microscopy and immunofluorescence techniques in the study of these disorders. This sheds some light on the still debatable subject involving the ultimate origin and differentiation of plasma cells.

STUDIES OF A NEW DRUG-1, 3-BIS (2-CHLOROETHYL)1-NITROSOUREA (BCNU) IN THE MANAGEMENT OF HODGKIN'S DISEASE (H.D.) AND OTHER LYMPHOMAS.

Luis J. Suau, M.D., José G. Lozada, M.D., Antonio Grillo-López, M.D. and Enrique Vélez-García, MD, Hematology Section, Department of Medicine, University of Puerto Rico School of Medicine.

During the last 4 years we have tried several multiple drug combinations including BCNU, in the management of disseminated Hodgkin's disease and other malignant lymphomas. These studies have been conducted in association with the Southeastern Cancer Study Group in well designed clinical trials after peer review and following patient's informed consent. Fifty three (53) patients were entered on study, 34 with H.D. and 19 with non-Hodgkin's lymphoma (NHL). Of the H. D. patients, 28 had excellent (E) and good (G) remissions (82 percent) whereas, of the NHL patients, 6 had E and 5 G remissions (58 percent). The survival of the responders was significantly better than that of the non responders and toxicity was minimal and entirely acceptable throughout the trials. We shall review the utilized combinations in detail. These studies have shown that BCNU is certainly an important new chemotherapeutic agent with significant activity in the malignant lymphomas which if optimally used, will certainly lead to better results than those obtained so far.



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INDICATIONS: *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa, primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection. *Prophylactically*, the ointment may be used to prevent bacterial contamination of burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the eyes or external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have known hypersensitivity to any of the components.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where

absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

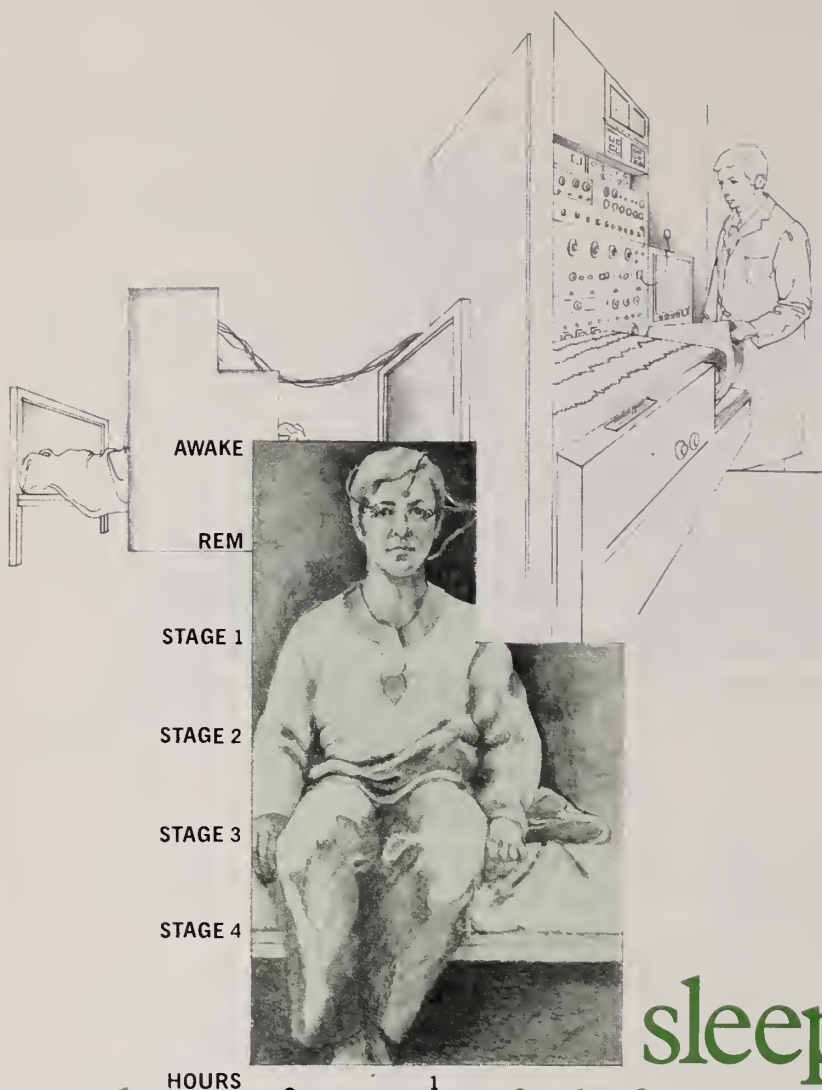
PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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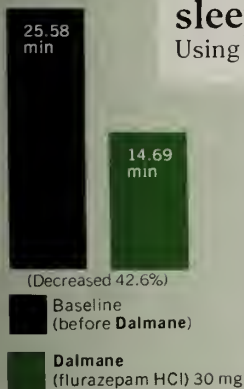


sleep
begins within
17 minutes, on average ...
an initial benefit of

Dalmane[®]
(flurazepam HCl) proved by a
22-night clinical study of insomnia patients
in the sleep research laboratory and at home¹

Three insomnia patients selected for difficulty falling asleep were administered Dalmane (flurazepam HCl) 30 mg for 14 consecutive nights. Placebo was given for four nights prior to and four nights after Dalmane. Physiologic tracings on Dalmane nights 1-3 showed sleep induction time averaged 13.90 minutes; on Dalmane nights 12-14, 18.80 minutes. Combined average for the 6 monitored drug nights was 16.35 minutes.¹

Average Time Required
to Fall Asleep (4 Studies,
16 Subjects²⁻⁵)



confirmed by clinical studies in four geographically separated sleep research laboratories²⁻⁵

Using a 14-night protocol involving eight insomniac and eight normal subjects, four studies confirmed the sleep-inducing effectiveness of Dalmane (flurazepam HCl) and the reproducibility of this response. On average, one 30-mg capsule induced sleep within 17 minutes. In all these studies, Dalmane induced sleep rapidly, reduced nighttime awakenings, and provided 7 to 8 hours of sleep without repeating dosage²⁻⁵

Dalmane (flurazepam HCl) induces and maintains sleep, with relative safety

Dalmane is generally well tolerated; morning "hang-over" has been relatively infrequent. While dizziness, drowsiness, lightheadedness and the like have been noted most often, particularly in the elderly and debilitated, physicians should be aware of the possibility of more serious reactions, as noted below.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

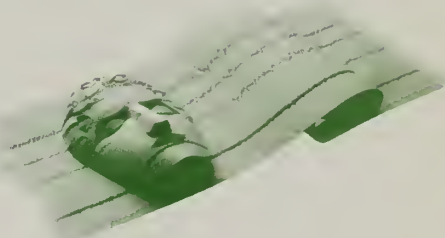
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



when restful sleep
is indicated

Dalmane[®] (flurazepam HCl)

One 30-mg capsule h.s. — usual adult dosage
(15 mg may suffice in some patients).

**One 15-mg capsule h.s. — initial dosage for
elderly or debilitated patients.**

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- sustains sleep 7 to 8 hours, on average, without repeating dosage

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REFERENCES: 1. Kales A, et al: *Arch Gen Psychiatry* 23:226-232, Sep 1970

2. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971

3. Frost JD Jr: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

4. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

5. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ



What does man have in common with Samson?

Neither man nor the gorilla can synthesize vitamin C. Interestingly, the slow loris, a primate much further down the evolutionary scale, can convert L-1,4-gulonolactone to ascorbic acid in its liver and presumably does not require an exogenous source of ascorbic acid.

Because man can neither synthesize vitamin C nor store most of the water soluble vitamins, these nutrients must be replenished continuously in order to

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In such cases, Surbex-T may be indicated. Surbex-T restores the water-soluble vitamins with each tablet providing 500 mg. of vitamin C plus high potency B-complex.



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Nothing artificial. It's a real food. With naturally occurring protein and all other nutrients intact. Add supplementary vitamins and carbohydrate and it's a complete, nourishing diet that doesn't pretend to be anything but good, honest nutrition babies thrive on.



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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, espe-

cially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests

advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100. *Libritabs®* (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

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Librium® up to 100 mg daily in
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The patient may have difficulty in accepting medical counsel.

Clinical experience has shown that some unduly anxious patients may tend to deny or minimize their illness and therefore resist seeking

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Please see reverse side
for summary of product information.

for relief of excessive anxiety

Librium[®] 10-mg capsules
(chlordiazepoxide HCl)



Boletín

asociación médica de puerto rico

Vol. 66

Octubre 1974

No.10

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*A NEW METHOD FOR THE TREATMENT OF EXPERIMENTAL PNEUMOTHORAX
AND BRONCHOPLEURAL FISTULA*

INTRAVENTRICULAR MONITORING OF THE CRANIOCEREBRAL TRAUMA PATIENT

TREATMENT OF MACULOPATHIES WITH LOW FREQUENCY CURRENT

PROGRAMA CIENTIFICO: ASAMBLEA ANUAL AMPR

EDITORIAL: POSTOPERATIVE MONITORING FOR THE CRITICALLY ILL PATIENT

SEGURO DE SALUD UNIVERSAL

*RESUMEN DE LA REUNION EXTRAORDINARIA DE LA CAMARA DE DELEGADOS
DE LA AMPR CELEBRADA EL 2 DE NOVIEMBRE DE 1974*

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Both after



Predominant
psychoneurotic
anxiety

Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures; require increased dosage of standard convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) occurred following abrupt discontinuation (convulsions, tremor, abdominal cramps, vomiting and sweating). Use with caution in addiction-prone individuals under c-

respond to one

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According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, though primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as excessive anxiety is relieved, the depressive symptoms associated with it are also relieved.

There are other advances in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or

two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

1. Henry BW, et al: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, et al: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

Valium[®]

(diazepam)

2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

illness because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider fully pharmacology of agents employed; drugs such as phenothiazines, barbiturates, MAO inhibitors or other antidepressants may potentiate action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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Each tablet contains:

80 mg trimethoprim and 400 mg sulfamethoxazole

A CLINICAL

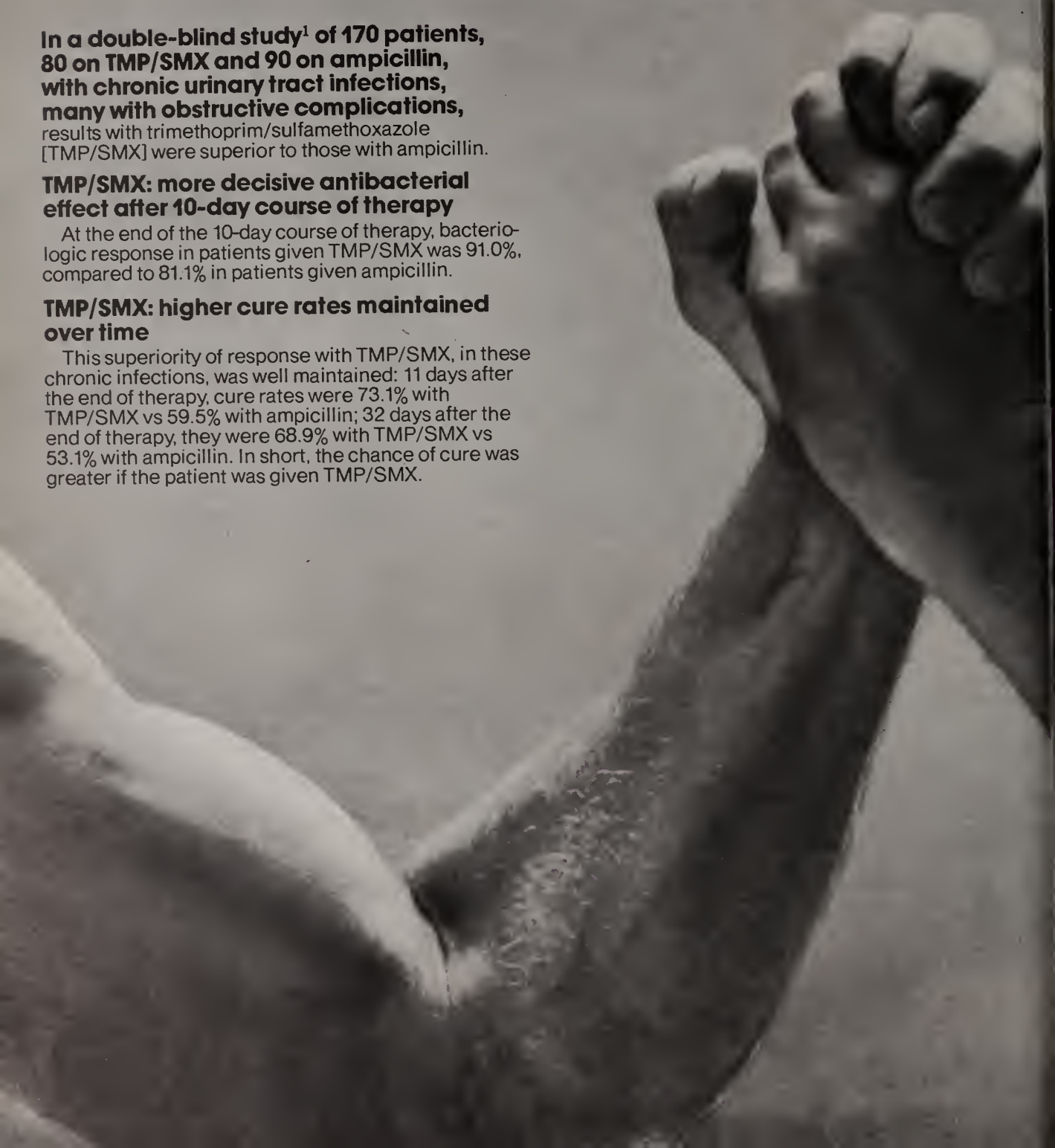
In a double-blind study¹ of 170 patients, 80 on TMP/SMX and 90 on ampicillin, with chronic urinary tract infections, many with obstructive complications, results with trimethoprim/sulfamethoxazole [TMP/SMX] were superior to those with ampicillin.

TMP/SMX: more decisive antibacterial effect after 10-day course of therapy

At the end of the 10-day course of therapy, bacteriologic response in patients given TMP/SMX was 91.0%, compared to 81.1% in patients given ampicillin.

TMP/SMX: higher cure rates maintained over time

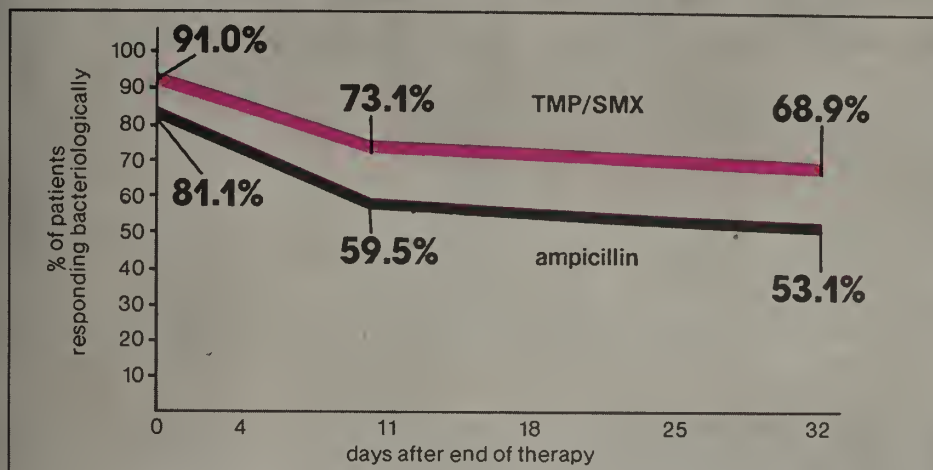
This superiority of response with TMP/SMX, in these chronic infections, was well maintained: 11 days after the end of therapy, cure rates were 73.1% with TMP/SMX vs 59.5% with ampicillin; 32 days after the end of therapy, they were 68.9% with TMP/SMX vs 53.1% with ampicillin. In short, the chance of cure was greater if the patient was given TMP/SMX.



AMPICILLIN

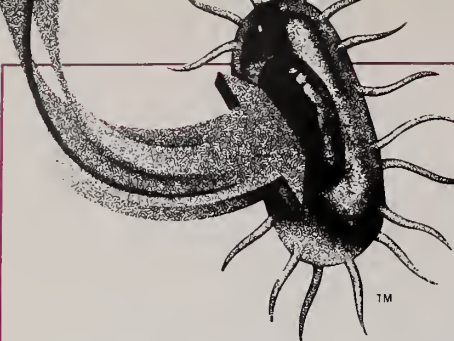
CONFRONTATION

Results after 10-day course of therapy in 170 patients with chronic urinary tract infection¹



Protocol—Dosages: trimethoprim/sulfamethoxazole 2 tablets b.i.d. or ampicillin 500 mg q.i.d. plus placebos to make each drug regimen appear to be identical. Infecting organisms: *E. coli*, *Proteus mirabilis*, indole-positive *Proteus*, *Enterococci*. Criterion for infection: 100,000 or more organisms/ml urine; criterion for cure: 10,000 or less organisms/ml urine.

See next page for prescribing information.



SEPTRA® VS AMPICILLIN

Each tablet contains:
80 mg trimethoprim and
400 mg sulfamethoxazole

A reassuring similarity in incidence of side effects

As a yardstick of the relative safety of a new antibacterial, it is useful to compare it to one with which clinicians are quite familiar. Here's how

TMP/SMX compared to ampicillin in this study.¹ See prescribing information under chart for all possible adverse reactions.

All patients who entered the study were evaluated for side effects.

Clinical signs or symptoms (117 patients)	TMP/SMX (120 patients)	ampicillin (120 patients)	Laboratory abnormalities (117 patients)	TMP/SMX (120 patients)	ampicillin (120 patients)
rash	—	3	thrombocytopenia	2	3
rash with pruritus	1	—	leukopenia	—	2
nausea	1	—	anemia	2	2
nausea and vomiting	2	1	SGOT	2	—
diarrhea	1	2	SGPT	—	1
constipation	1	—	alkaline phosphatase	1	—
facial swelling	—	1	SGOT, SGPT	1	—
			alkaline phosphatase, SGOT, SGPT	1	—
			bilirubin, alkaline phosphatase, SGOT	1	—
			creatinine	1	4

INDICATIONS: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and, less frequently, indole positive *Proteus* species).

IMPORTANT NOTE. Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.

CONTRAINDICATIONS: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period. (Before prescribing, please consult package insert.)

WARNINGS: Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Septra. If a significant reduction in the count of any formed blood element is noted, Septra should be discontinued.

At the present time there is insufficient clinical information on the use of Septra in infants and children under 12 years of age to recommend its use.

PRECAUTIONS: Septra should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

ADVERSE REACTIONS: For completeness, all major reactions to sulfonamides and to trimethoprim are included below even though they may not have been reported with Septra.

Blood Dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

Allergic Reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis,

urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

Gastrointestinal Reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

C.N.S. Reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

Miscellaneous Reactions: Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

DOSEAGE AND ADMINISTRATION: Not recommended for use in children under 12 years of age.

The usual adult dosage is 2 tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual Standard Regimen
15-30	2 Tablets Every 24 Hours
Below 15	Use Not Recommended

HOW SUPPLIED: Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 40, 100 and 500 tablets and strip packages of 100 tablets, each tablet individually packed.

REFERENCE: 1. From a multiclinic study based on a single protocol. Data on file in the Medical Department, Burroughs Wellcome Co.



Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

BOLETIN

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INDICATIONS

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urticata; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris, corporis, pedis); moniliasis; intertrigo.

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS

Hypersensitivity to Vioform-Hydrocortisone, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia, and varicella).

WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate systemic antibiotics should be used.

Usage in Pregnancy

Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been established. Therefore, they should not be used extensively on pregnant patients in large amounts or for prolonged periods of time.

PRECAUTIONS

May prove irritating to sensitized skin in rare cases. If this occurs, discontinue therapy. May stain.

If used under occlusive dressings or for a prolonged period, watch for signs of pituitary-adrenal axis suppression.

May interfere with thyroid function tests. Wait at least one month after discontinuance of therapy before performing these tests. The ferric chloride test for phenylketonuria (PKU) can yield a false-positive result if Vioform is present in the diaper or urine.

Prolonged use may result in overgrowth of nonsusceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS

Few reports include: Hypersensitivity, local burning, irritation, pruritus. Discontinue if untoward reaction occurs. Rarely, topical corticosteroids may cause striae at site of application when used for long periods in intertriginous areas.

DOSAGE

Apply a thin layer to affected areas 3 or 4 times daily.

HOW SUPPLIED

Cream, 3% iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of 5 and 20 Gm. **Ointment**, 3% iodochlorhydroxyquin and 1% hydrocortisone in a petrolatum base; tubes of 5 and 20 Gm. **Lotion**, 3% iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearic acid, cetyl alcohol, lanolin, propylene glycol, sorbitan trioleate, polysorbate 60, triethanolamine, methylparaben, propylparaben, and perfume Flora in water; plastic squeeze bottles of 15 ml. **Mild Cream**, 3% iodochlorhydroxyquin and 0.5% hydrocortisone in a water-washable base containing stearyl alcohol, cetyl alcohol, stearic acid, petrolatum, sodium lauryl sulfate, and glycerin in water; tubes of ½ and 1 ounce. **Mild Ointment**, 3% iodochlorhydroxyquin and 0.5% hydrocortisone in a petrolatum base; tubes of ½ and 1 ounce.

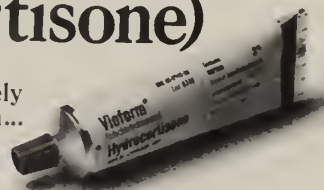
Consult complete product literature before prescribing.

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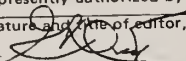
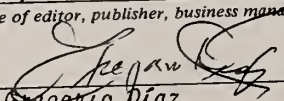
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A NEW METHOD FOR THE TREATMENT OF EXPERIMENTAL PNEUMOTHORAX AND BRONCHOPLEURAL FISTULA

Olga Rodríguez, MD
Jorge O. Just Viera, MD

The treatment of free air in the pleural cavity follows time honored principles: Closed thoracotomy with tube insertion, underwater seal drainage with varying amounts of suction, and expansion of the collapsed lung with seal of the leak. Open thoracotomy with suture of lung parenchyma, thoracoplasty and closure of bronchial fistulas are more complex procedures to be used when indicated.

We feel that an important factor in development of an air leak, and the subsequent persistence of bronchopleural fistula has been precisely the continuous flow of air during ventilation. A lung low in compliance, and increased expiratory obstruction may further diminish the probability of a successful outcome.

We postulated that interruption of this sequence of events by control of the air leak thru occlusion of the affected bronchus would be of benefit. This was done with an inflatable cuff attached to a maneuverable intrabronchial catheter placed at the site of the leak. The results obtained form the basis of this report.

Material and Methods

Healthy mongrel dogs, anesthetized with 15 mg/lb. of Nembutal, were intubated and placed on a respirator. A total of thirty dogs had a right thoracotomy and were divided in 3 control groups and 3 treated groups, with 5 dogs in each group, as follows:

A) Control Groups: (1, 2, 3)

Group 1 – After right upper lobectomy the bronchus was left completely open to create a large bronchopleural fistula.

Group 2 – A smaller fistula was produced in these animals by leaving the segmental bronchi open following a right diaphragmatic segmentectomy.

Group 3 – A third, smaller, fistula was simulated by resection of a large piece of peripheral lung tissue of the right cardiac lobe without any closure whatsoever of resulting air leaks.

B) Treated Groups: (Groups 3, 4, 5)

Group 4 – As described for group 1, a right upper lobectomy was performed. A number 12 Foley catheter was introduced through a small tracheostomy in the neck, and the tip was placed through the right upper lobe bronchus opening. The cuff was inflated with 3cc of water and sufficient traction was applied at the tracheostomy site to maintain the bronchus occluded with the inflated catheter bulb. Traction was maintained by appropriate bandaging of the neck wound.

Group 5 – After right diaphragmatic lobe segmentectomy the Foley catheter was placed in the bronchus and cuff was inflated.

Group 6 – The right cardiac lobe was amputated at its mid portion. The catheter was introduced in a retrograde fashion, through a peripheral bronchus, into the segmental bronchus, where the bulb was inflated. The proximal end of the catheter was exteriorized through the chest.

In all dogs, controls and treated, a chest tube was placed until the chest was closed. The lung was then forcibly expanded, the chest tube was removed and the respirator was disconnected without further concern of any resulting air leak. None of the dogs received antibiotics.

Results

With the exception of 4 dogs all controls died in 30 minutes or less after removal of the chest tube, from tension pneumothorax. Two lived more than 30 minutes but less than 24 hours. Only 2 control dogs lived for longer periods; one for 3 days and another for 15 days. In the last animal even though the bronchus remained open the lung expanded and adhered to the chest wall allowing survival. In all other control

From the Section of Thoracic and Cardiovascular Surgery, San Juan City Hospital, and the Surgical Research Laboratory, University of Puerto Rico School of Medicine.

Supported in part by the Puerto Rico Heart Association and the "Asociación Puertorriqueña de Investigación Médica" (APRIM, Inc.)

dogs the lung was completely collapsed at autopsy.

All treated dogs survived at least 3 days, three for more than 15 days. One of the dogs was sacrificed 12 days following surgery after a bronchogram demonstrated complete sealing of the bronchus, confirmed by autopsy, by formation of a membrane over the distal bronchial end.

The most common cause of death in the treated groups was pressure necrosis of the bronchus which occurred in 6 animals. Because of the difficulties inherent in the experiment, no attempt was made to deflate the balloon periodically as would be indicated in a clinical setting. In these dogs the diameter of the bronchus increased, and the bulb slipped proximally, occluded the trachea, and caused asphyxia. Four dogs died of empyema, which was the second cause of death in the treated group. In two cases death was secondary to lung collapse when the bulb did not occlude the bronchus completely.

Two dogs were sacrificed 15 and 16 days after surgery. At that time they were active, without respiratory distress and feeding normally. Autopsy showed the lung to be expanded without evidence of infection.

Discussion

Pneumothorax may be a life threatening condition at any age. Spontaneous pneumothorax, however, is being encountered more frequently in the elderly because the geriatric population grows and the incidence of pulmonary emphysema increases.

In these patients decreased lung compliance, increased air resistance and fibrosis combine to prolong air leaks, even after treatment with closed thoracotomy and continuous underwater seal and suction. The pulmonary reserve of these patients is markedly reduced to begin with and is further compromised with both the pneumothorax and the escape of inspired air. Rapid lung expansion is indicated, especially if arterial blood gases demonstrate desaturation. Open thoracotomy with excision of pleural blebs, pleurectomy and pleural abrasion may result in a high mortality and morbidity in these patients.

The ideal treatment for pneumothorax should re-expand the lung, promote adhesions to the pleura to

avoid recurrence, should be free of complications and should involve a short period of hospitalization.

Present methods fail often specially in emphysematous, elderly patients and in persistent post operative bronchopleural fistulas.

Our experiment was designed with these patients in mind, to devise a simple method which could diminish or interrupt the air leak and, used simultaneously with closed thoracotomy, permit expansion of the lung and adequate healing.

Suitable catheters designed for human use should be easily placed in the open bronchus by the use of bronchoscopy and fluoroscopy, as is done currently for bronchial brushing. Occlusion of the affected bronchus will permit expansion of the remaining lung. The bronchus can be kept occluded for the time needed for healing and safe closure. It can be deflated periodically to prevent necrosis. Its use immediately post operatively may be helpful after difficult pulmonary resection with multiple air leaks. Such a method would be an alternative to general anesthesia and open thoracotomy which carry a high risk in patients with pulmonary insufficiency.

Summary

The importance of continuing escape of air in preventing closure of an air leak from the lung was evaluated experimentally. Intrabronchial occlusion by an inflatable cuff permitted significant longer survival in treated animals compared to controls in which bronchi were left open after resection.

This method may prove useful clinically in elderly patients, in bronchopleural fistula and after difficult resections with multiple leaks.

Control of the air leak permits earlier closure and healing of the open bronchus.

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2. M. Mitchel, Bruce, B. F.: Spontaneous Pneumothorax: A series of 400 cases, *Ann. Thor. Surg.*, 5: 286, 1965.

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INTRAVENTRICULAR MONITORING OF THE CRANIOCEREBRAL TRAUMA PATIENT

R. L. Blaylock, MD
T. B. Ducker, MD
M. S. Rittenbury, MD
P. L. Perot, Jr., MD, PhD

Monitoring of intraventricular cerebrospinal fluid pressure in patients with serious head injuries has become an essential part of our care of these patients. For example, the slow and simple withdrawal of a few milliliters of cerebrospinal fluid can reduce intracranial tension often more effectively than commonly used drugs. Within the past year this has become standard therapy in the care of our patients. We also have been studying the chemistry of the ventricular cerebrospinal fluid. In this paper we would like to report preliminary results in the analysis of not only cerebrospinal fluid pressure, but also hydrogen ion concentration, partial pressure of oxygen, partial pressure of carbon dioxide, and oxygen consumption, all of which gave additional useful clinical data.

Material and Methods

All of our patients were admitted to the Medical University Hospital Trauma Unit which is especially equipped for patient monitoring and the recording of various functions on a continuous basis. Four patients are herein reported. Before admission to the unit each patient had a cerebral angiogram and an echoencephalogram to rule out a mass lesion. Case P. G., Class F, was found to have an acute subdural hematoma which was evacuated. Upon admission a ventricular catheter was inserted. This was done either in the Trauma Unit under sterile conditions or in the operating room. A right frontal burr hole was made in all cases and a 7 cm. ventricular catheter was inserted into the right frontal horn of the lateral ventricle. Without withdrawing cerebrospinal fluid (CSF), the catheter was connected to a transducer which was in turn attached to a Hewlett-Packard, 8 Channel recorder, Model Number 7700 ink writer, for continuous recording of CSF pressure along with other parameters.

CSF was withdrawn twice daily and analyzed for hydrogen ion concentration (pH), partial pressure of carbon dioxide ($p\text{CO}_2$) and partial pressure of oxygen ($p\text{O}_2$). In addition to

ventricular CSF pressure, there was continuous monitoring and recording of blood pressure, central venous pressure, pulse, respiration, blood gases, CSF and blood lactates and pyruvates, cardiac output and pulmonary volume. Daily or more, frequent measurements were made of the cardiac output with Lexington Instruments, Cardiac Output Computer and the percentage of pulmonary arteriovenous shunting. Blood pH, PO_2 and PCO_2 were measured utilizing the Instrumentation Toleration Model 313 Blood Gas Analyzer. The same instrumentation was utilized to measure the CSF values of oxygen utilization and the arteriovenous shunts. All determinations made on measured oxygen concentration, from an Ohio Volume Respirator Model 560, and the figures utilized in this report were obtained with 100 percent oxygen flow.

We have classified our patients retrospectively as follows: A) full recovery; B) minor neurological deficit; C) major defect but able to care for self; D) unable to care for self; E) died after discharge from hospital; and F) died during hospital course. In this report, we have patients of the C, D, E and F group.

Results

The results are presented in graph form in Figures 1 through 5. We have oversimplified the facts in these graphs in order to present our data clearly. All authors agreed, after reviewing the total data, that on or about day three, critical changes in the chemical composition and pressure of ventricular cerebrospinal fluid were present. All patients were treated basically the same; consequently, the emphasis of our results is not on various therapies but on the outcome of the patient.

When the cerebrospinal fluid pressure within the ventricle remains high or fluctuates greatly, as various therapies try to reduce it, the patients do poorly. When the cerebrospinal fluid pressure stays below 10 mmHg or 130 cm of water, the patients do much better. In our Grade C patient, the intracranial cerebrospinal fluid ventricular pressure on admission was 7 mmHg. The highest recorded was 9 to 10 mmHg, with a final stabilization of about 5 mmHg. In this patient there was neither a great fluctuation of intracranial pressure nor elevation of pressure. Even though the Class D patient started out with very high intra-

cranial pressures, he was treated effectively and his intracranial pressure was soon below 10. This patient survived (Figure 1). In the Class E patient there was fluctuation with intermittent elevation of the pressure with a stabilization at the upper limits of acceptability at 10 mmHg. However, in the Class F patient who did poorly and died while in the hospital, the pressure was initially high at 20 to 30 mmHg, fluctuated greatly from 10 to 30 mmHg, and never stabilized in spite of our therapy.

The cerebrospinal fluid pO_2 ranges between 30 and 40 mmHg when under normal conditions arterial pO_2 is near 100 mmHg. The partial pressure of oxygen in the cerebrospinal fluid of the ventricle is elevated above normal when patients are breathing 100 percent oxygen and have an elevated saturation of their arterial blood to at least 350 mmHg and often over 400 mmHg. In patients who do well, there is a good transport of oxygen from the blood to the cerebral spinal fluids of the ventricle. In the patients who do poorly, the results indicate that there is interference with the transport mechanism and there is a lower oxygen partial pressure of the ventricular spinal fluid. In our Grade C patient, this cerebrospinal fluid pO_2 was initially greater than 150 and stabilized at 120 mmHg (Figure 2). In the Class D patient, the initial pO_2 was 100 mmHg, fell to 90 on the fourth day and stabilized at this level. In the Grade E patient, the initial pO_2 was further depressed to 95, slowly drifted into the 80's and stabilized at approximately 80 mmHg. In the Class F patient the cerebrospinal fluid pO_2 initially was also depressed, and fell to 50 mmHg in spite of adequate oxygenation of the peripheral blood. This occurred on the first day following the removal of an acute subdural hematoma. It stabilized at 70 mmHg after approximately a week to ten days.

The ventricular cerebrospinal fluid partial pressure of carbon dioxide varied with both the partial pressure of carbon dioxide in the systemic circulation and the condition of the brain. From our results this parameter varied greatly with the general condition, the pulmonary status, and the cerebral metabolism. It was impossible to separate the patients except on the basis of their initial determination, where the most seriously injured patient tended to have the slightly higher pCO_2 . However, there are many exceptions. All of the patients grouped together (Figure 3) showed a drop in the CO_2 on or about the third day. We cannot explain this observation for there was not an equivalent change in arterial pCO_2 at that time.

Intraventricular
CSF Pressure

Figure 1

Ventricular
CSF pO_2

Figure 2

Ventricular
CSF pCO_2

Figure 3

The oxygen consumption of the entire brain, which is based primarily on the difference between systemic arterial and jugular vein oxygen difference, appears useful in predicting the patient's future. In the patients who do well, there is increased oxygen consumption after trauma as the brain mends itself. In the patients who do poorly, oxygen consumption is interfered with

markedly and they remain in a depressed metabolic state. For example, Class C patients showed oxygen consumption initially at 70 which rose to 115 and stabilized in the range of 80. This is distinctly above the normal levels of approximately 50. In the Class D patient, the oxygen consumption was in the range of normal of around 50 initially and stabilized at a slightly depressed level. This patient has shown depressed cortical function for more than a year and we feel this represents some significant percentage of permanent brain damage in the patient. In the Class E patient, there was a slight rise to 55 on the third day. Although within the upper levels of normality, this elevation was not significantly maintained and the patient stabilized in the 40's and later died. The Class F patient, whose range of 20 showed a cerebral oxygen consumption of less than half of normal during the entire monitoring session did poorly in all aspects.

Discussion

Recording of intracranial pressure in patients was probably first successfully done by Ryder in 1952. (22) Since this time it has been used in many conditions affecting the human brain and much new information has been gained from its use. (11, 12, 15, 16, 21, 22, 27, 28, 29, 30) Various methods have been applied, varying from subdural pressure transducer to direct intraventricular pressure recordings. (2, 11, 12, 15, 16, 17, 21, 23, 26) The value of continuous monitoring of intracranial pressure has been shown by several authors. (10, 11, 12, 13, 15, 27, 28, 29, 30)

We chose the use of intraventricular catheters for several reasons. It is an easy procedure with few complications. There was no difficulty with occlusion of the catheter. The best part of the intraventricular catheter is that the cerebrospinal fluid at any time can be withdrawn both to analyze the condition of the brain and to treat increased intracranial pressure. Each of our patients with severe head injuries was treated vigorously with various methods to reduce intracranial pressure when recordings were high. These include the use of Mannitol, Lasix, hyperventilation and elevation of the head of the bed.

In comparing our results we come to a conclusion similar to Troupp's—the initial pressure reading is not as important prognostically as is the difficulty in controlling the intracranial pressure. (28) For example, Patient D had very high pressures initially but these were controlled and he survived. Patient E, whose initial

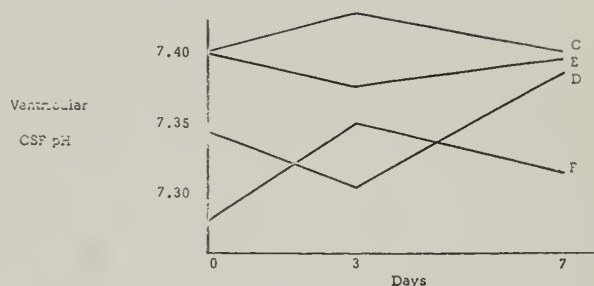


Figure 4

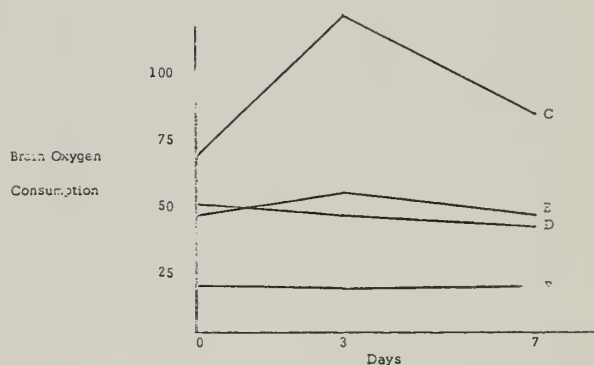


Figure 5

pressure was only 6 - 7 mmHg, showed much fluctuation between 10 -15 mmHg and whose pressure was never effectively controlled, died four months after injury. It is also accepted that patients with generalized head injuries with steady high pressures, all died. Troupp found also that the group that had increased intracranial pressure with wide fluctuations either died or became vegetative wrecks. Patient F was such an example.

In regard to the therapeutic value of the intraventricular catheter, we found that in most patients it provided a simple and safe method of reducing the pressure. We found that Mannitol was an effective agent in reducing the intracranial pressure, but that in certain patients it would fail after a period of time. It has been postulated that this refractoriness to hypertonic agents may reflect a loss of autoregulation of the cerebral blood flow. (11, 27) The patients whose pressures could be effectively lowered to a desired level by withdrawing cerebrospinal fluid periodically, did well. Patient C is such an example.

One major problem in clinical observation of patients with severe head injuries is in trying to determine which patient is doing poorly due to increased intracranial pressure and tentorial herniation and which have primary brain stem injuries. By direct measurement of the intraventricular pressure it is obvious that this method clearly makes the distinction for us.

The first major study done on cerebrospinal fluid pO_2 was done by Zupping in 1970. (30) In reporting forty-five patients with a variety of head injuries, including intracranial hemorrhage, he established a normal cerebrospinal fluid pO_2 value of 41.2 ± 1.4 and an average in his brain injured subject of 37.1 ± 1.3 . He felt that the cerebrospinal fluid pO_2 was significant and valuable in predicting a prognosis, even when indicating only a slight change. Furthermore, he felt that cerebrospinal fluid pO_2 only partly reflected the O_2 of brain tissue. In his series, the patients with a low cerebral spinal fluid pO_2 were deeply comatose and generally did poorly. Our results agree but our pO_2 values are higher because, as stated in the results, the patients were breathing 100 percent O_2 during the study. We agree with Kazemi that the cerebrospinal fluid pO_2 must depend on a combination of brain tissue pO_2 , arterial pO_2 , cerebral blood flow and the CSF sampling point. (8) The Class C patient had an initial cerebrospinal fluid pO_2 of greater than 150 mmHg which stabilized in seven days to 120 mmHg. The patient graded F had initial cerebrospinal fluid pO_2 of 95 mmHg and eventually stabilized at 70 mmHg by the seventh day—never rising above 95 mmHg. Patients D and E fell between two extremes perfectly.

We found it difficult to correlate cerebrospinal fluid pCO_2 with prognosis. In these four patients, the lowest value was seen in the patient who did the best clinically. It appears that the pCO_2 levels of cerebrospinal fluid are so labile and diffusible that its only possible value could be in differentiating the very best patient from the rest. In reviewing the literature we found no good correlation with cerebrospinal fluid pCO_2 , only that it was decreased in the head injured patient and was probably secondary to decreased blood pCO_2 . (7, 19, 30) We cannot explain the rather consistent drop in pCO_2 that is seen on the third day after injury in all patients. There was no similar change noted in the arterial pCO_2 at that time.

Many methods of measuring cerebrospinal fluid pH have evolved over the past ten years. This varied from lumbar puncture at various intervals to cisternal puncture and finally ventricular cerebrospinal fluid measuring as we have done. In previous reports it has been

shown that the normal cerebrospinal fluid pH is 7.388 ± 0.005 which is slightly acidotic to the blood pH. It has also consistently been shown that with brain injury the cerebrospinal fluid pH falls and does so in relation to the severity of cerebral injury. (6, 7, 9, 25, 30, 31) It has been postulated that this represents lactic acidemia in response to poor brain perfusion and subsequent anaerobic metabolism. (1, 7, 9, 14, 30, 31) Furthermore, it has been shown that the cerebrospinal fluid bicarbonate falls in accordance with the increased hydrogen ion concentration. (7)

The study by Zupping showed that the cerebrospinal fluid pH in patients who completely recovered did not differ from that of the controls. (30) Patients who had permanent neurological sequelae and those who failed to recover had an even further reduction of cerebrospinal fluid pH. He concluded that the intensity of brain acidemia is closely related to the extent of brain tissue damage. (30) Our results parallel his results. The patient classed as C showed an initial pH of 7.4 which rose to 7.5 and finally stabilized at 7.4. Never was his cerebrospinal fluid acidotic. Whereas in patient F, the initial cerebrospinal fluid pH was 7.28 and had its peak value at 7.38 and stabilized at 7.32. Again it seems reasonable that the pH value would have been lower if the patients had not been given 100 percent O_2 for such long and frequent periods of time. We think it is worth mentioning here that Zupping, in analyzing his cases, never observes the hyperventilation causing the cerebrospinal fluid pH to return to normal in severe cases. Ours was a similar experience as seen in patient F.

It seems obvious that one of the best methods to determine how well the injured brain is functioning is to measure its O_2 consumption. Pevsner, *et al* have demonstrated in seven patients with severe head injury that the O_2 consumption varies directly with prognosis. (20) It must be kept in mind that O_2 consumption is controlled by many variables, the most important of which is regional cerebral blood flow. Meyer, in an experimental study compared the effect of concussion, contusion, and brain stem laceration on cerebral metabolic oxygen consumption. (14) He found a transient increase in oxygen consumption in the group with concussions and a marked decrease in cerebral metabolic rate in the group with severe injuries such as brain stem lacerations. The contused group's oxygen consumption fell between these two values. (14) Of all factors analyzed, we felt that the oxygen utilization was the most useful. The initial values going from patient C to patient F were seventy, fifty, forty-five

and twenty milliliters per minute.

We are currently expanding our studies to include mass spectrographic recordings of O_2 levels by way of an intracerebral probe. (18) Further, we feel that others need to become aware of the advantages of intraventricular monitoring, as an aid to improve their patient care.

Summary

Increased intracranial pressure has been shown by many investigators to cause alterations in brain function and hemodynamics which can affect the patient's final outcome. Many methods of reducing this pressure, when it is elevated, have been devised. These vary from hyperventilation to the use of hypertonic solutions. While these are effective in many cases, it has been shown by us and others that a significant proportion of the patients will become resistant to these standard methods. The withdrawal of a few milliliters of ventricular CSF often dramatically reduces intracranial tension, and it is here that the ultimate value of the ventricular catheter lies.

We were able to demonstrate a direct correlation of prognosis and eventual diagnosis, with brain oxygen consumption, CSF hydrogen ion concentration and CSF partial pressure of oxygen. With these laboratory determinations it now appears that one can ascertain the patient's condition more accurately.

In conclusion, we feel intraventricular monitoring has proven to be both a therapeutic and diagnostic aid in the treatment of the severely head injured patient.

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TREATMENT OF MACULOPATHIES WITH LOW FREQUENCY CURRENT

Manuel N. Miranda, MD

In 1963 Mr. Philip L. Salvatori informed me that experiments had shown that accommodation could be improved by applying to the eyes a low frequency current provided by a machine which Mr. Ernest E. Mazzara and he had designed in 1952. When I asked him whether I could try out such a machine, he sent me one from Sarasota, Florida.

For one month I tried to increase the amplitude of accommodation of two patients with the device, however without success. Although this was certainly not a fair evaluation, it nevertheless added to my initial scepticism.

At that time I was taking care of my 74-year old aunt whose corrected vision had dropped to 20/200 in both eyes owing to bilateral senile macular degeneration, and since I had failed for two years to improve her vision with conventional therapy, I decided to try low frequency current. I started treatment one hour daily, five days weekly for two months. Her visual acuity with correction improved to 20/80 in the right and to 20/100 in the left eye; her fundus picture remained unchanged. Further treatment was reduced to one hour twice a week for three months, and then to one hour a week for 11 months. At the end of 16 months her corrected vision had improved to 20/60 in both eyes. After this, treatment was further reduced to once a month for two years, and then to one hour about every six months. Her vision has remained 20/60 in each eye; yet her fundus, which both revealed shallow macular holes, have not changed.

From 1965 to 1968, I treated twenty five patients of ages between forty and eighty years, with low

frequency current. Eleven of these discontinued treatment before an evaluation could be made. Thirteen patients had macular degenerations, and one patient a chronic central serous retinopathy. The results were good in ten, and poor in four. Because these treatments require much time, I discontinued them in 1969; however, in 1970 Dr. Jaime Brizarry referred to me a girl, 16, with progressive loss of vision in both eyes owing to juvenile macular degeneration, and urged me to apply low frequency current. The excellent results obtained in this patient, and in a boy, 13, with solar retinitis have prompted this report.

Materials and Methods

The instrument (Figure 1) has a so-called I-Sonic modality for application to the eyes, and an audio modality for the ears. The modality labeled "I-Sonic" is a modified square wave with a normal frequency of 400 cycles.

The amplitude of this wave can be varied continuously

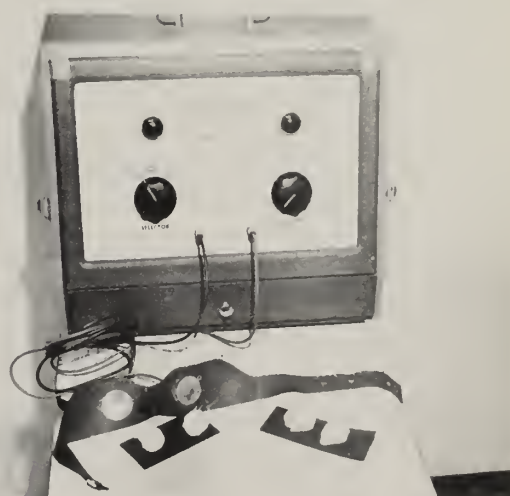


Figure 1

From the Dept. of Ophthalmology School of Medicine, University of Puerto Rico. Read at the Annual Meeting of the Section of Ophthalmology of the Puerto Rico Medical Association at Cerromar Hotel, Dorado, Puerto Rico, on July 26, 1974.

Request reprints: Manuel N. Miranda, MD, GPO Box D, San Juan, Puerto Rico, 00936.

from zero to 250 volts maximum. Intensities of this magnitude have been applied with no deleterious effects to the eyes. My own experience has been that long exposures such as I have used have in no case shown side effects.

The front panel of the machine has an "on" and "off" switch on the left, a dial which regulates the intensity of the electric current on the right, and two small openings for the mask electrodes in the center.

The mild electric current of the machine creates no heat, it merely produces a gentle flutter or a "wavy" sensation.

In the treatment, the electrodes with wet cotton are applied centrally to the closed lids. An eye mask is used to hold the electrodes in place. Then the intensity dial is turned on. As the patient is beginning to feel a mild flutter of the lids, the current is slowly increased to the point of a more marked sensation, yet still well within the patient's tolerance. Then the treatment is given for 60 minutes.

Case Reports

Case No. 1: The girl, 16, wearing a correction O.D. -2.00 sph. O.S. -1.50 -0.50 x 175°, noticed since June, 1970 a gradual loss of vision in both eyes, especially in the right. In September, 1970, she was examined by Dr. J. Irizarry, who found irregular pigmentation and poor reflexes in both maculas. Vision with correction was O.D. 20/60 and O.S. 20/30.

Previously doctor Irizarry had examined her in July, 1969. At that time the maculas were normal and vision with the same correction was 20/20 in both eyes.

She was referred for consultation to Dr. José Berrocal, director of the Retina Service of the Department of Ophthalmology of the Puerto Rico School of Medicine, who found stippling of both maculas. Intravenous fluorescein for angiography could not be done because of the patient's very thin arm veins. She was turned back to doctor Irizarry with the diagnosis of Juvenile Macular Degeneration. Then doctor Irizarry referred her to me in October, 1970, for low frequency current therapy.

After checking her refraction and finding the same prescription, I started her with one hour daily, five days weekly, for two months. Vision with correction improved to 20/25 in O. D. and 20/20 in O. S. Treatment was continued for one hour twice a week for two months. At the end of four months since the beginning of treatment her vision had improved to 20/20 in each eye and the foveal reflexes were observed for the first time. Finally she was treated one hour every month for six months.

At the end of ten months of therapy her corrected vision was 20/20 in each eye; the foveal reflexes were good; but both maculas showed alterations of the retinal pigment epithelium with some clumping compatible with Juvenile Macular Degeneration. The patient has been examined every year, and her condition has remained unchanged.

Case No. 2: Boy, 13, noticed gradual loss of vision in the right eye following his observation of a solar eclipse through a telescope in December, 1969. He was a patient of doctor Irizarry, who in 1972, referred him to me for treatment with low frequency current.

In June, 1972 vision was 20/80 in the right eye and 20/20 in the left, and could not be improved with glasses. He was given treatment for one hour daily, five days a week for five weeks. Vision improved to 20/60 in the right eye. Then treat-

ment was changed to one hour a week for two months, then to one hour every two weeks for three months, then to one hour a month for 6 months. After one year of treatment, vision in his right eye had improved to 20/20. However, a small depression in the foveal area compatible with a small lamellar hole, remained the same as found in the first visit.

No side effects were observed in either patient.

The visual improvements as measured by me were subsequently checked and confirmed by doctor Irizarry.

Comments

The excellent results obtained in Case No. 1, Juvenile Macular Degeneration, and Case No. 2, Lamellar Hole in the Macula, as well as the good to fair results obtained in previous patients with degenerative diseases of the macula, suggest the possible usefulness of low frequency current in the treatment of degenerative diseases of the macula, especially in those patients with partial damage to the macular components.

The general literature of ophthalmology contains articles regarding the use of microwave diathermy in the treatment of diseases of the posterior pole (1, 2), but I have not been able to find any regarding the use of low frequency current in eye diseases.

Microwave diathermy utilizes the formation of heat in an endogenous manner in the body tissues. Low frequency current produces no heat, but only a sensation of flutter or vibration of the whole eye.

The actual cause of the demonstrated visual improvement is not known at this stage. It can only be conjectured that it may be an improved circulation, and/or, if Granit's (3) thought may be applicable, it may be the excitement of silent ganglia in the retina.

Summary

Excellent visual improvement resulting from the use of low frequency current in a patient with Juvenile Macular Degeneration, and in another with Solar Maculopathy are reported, as well as results obtained in other patients. A method of applying low frequency current to the eye is explained.

Resumen

Se reportan las excelentes mejorías en la visión obtenidas por el uso de corriente de baja frecuencia en un paciente con Degeneración Macular Juvenil y en otro con Maculopatía Solar, así como también los resultados obtenidos en otros pacientes. Se explica un método para aplicar corriente de baja frecuencia a los ojos.

Acknowledgments

I want to thank Dr. Jaime Irizarry for referring to me the patients and their records, Dr. Antonio Ramos for interpreting the retinal photographs, and Mr. Eliut González for taking the retinal photographs.

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**PROGRAMA CIENTIFICO
ASAMBLEA ANUAL - AMPR**

JUEVES 7 DE NOVIEMBRE -

Salón Isla Verde "A"

**SECCION DE GASTROENTEROLOGIA
SOCIEDAD PUERTORRIQUEÑA DE
GASTROENTEROLOGIA**

Juan T. Tomasini, M. D., Moderador

- 9:00 a.m. Importancia de la Escintigrafía Hepática
René Dietrich, MD, Aldo Lanaro, MD, Arístides H. Sarmiento, MD
- 9:20 a.m. Esophageal Cancer: A Study of 58 Patients Surviving Five or More Years
José E. Silva Ayala, MD, Jorge O. Just Viera, MD
- 9:40 a.m. Effective Protection with Steroids in Experimental Liver Ischemia
Iván Figueroa, MD, E. A. Santiago Delpín, MD, MS
- 10:10 a.m. Receso
- 10:40 a.m. Infusión de Fluorouracil por 120 Horas — Superioridad Sobre Otros Métodos de Administración en Cáncer Gastrointestinal
Antonio J. Grillo, MD, Enrique Vélez García, MD
- 11:00 a.m. New Concepts on Peptic Ulcer Surgery
Ricardo M. Rau, MD
- 11:30 a.m. Acute Metabolic Disturbances Induced by Bacteria During Sugar Malabsorption
Ramón Torres Pinedo, MD
- 11:45 a.m. Absorption of Aminoacids Tropical Malabsorption
José J. Corcino, MD, Frederick A. Klipstein, MD
- 12:00 m. Conferencia Magistral Dr. Ramón J. Sifre "Immunologic Hiperactivity and Alcoholic Liver Diseases"
Carroll M. Leevy, MD
- 1:00 p.m. Almuerzo Salón Tropicoro (Cortesía de La Cruz Azul de Puerto Rico)
- 3:00 p.m. a 5:00 p.m. SIMPOSIO - ENFERMEDADES VENEREAS
Introducción - *Carlos A. Armstrong Ressay, MD*
Magnitud del Problema Venéreo - *Sr. William Parra*
Aspectos Médicos en Relación a Enfermedades Venéreas - *Filiberto Ramírez Corría, MD*
Aspectos de Laboratorio - *Thomas Smith, MD*
Aspectos de Educación Pública - *Antonio Ramos Barroso, MD*

JUEVES 7 DE NOVIEMBRE

Salón Isla Verde "B"

Ramón H. Bermúdez, MD., Moderador

- 8:40 a.m. Attenuated Influenza Virus Intranasal Vaccine in a High Risk Male Population
F. Pérez Rodríguez, MD, Ramón H. Bermúdez, MD, Yasushi Togo, MD
- 9:00 a.m. Bronchopulmonary Allergic Aspergillosis
Roy Patterson, MD
- 9:30 a.m. Gram Negative Bacteremic Shock
Burton A. Waisbren, MD
- 10:10 a.m. Receso
- 10:30 a.m. Pulmonary Changes in Lung Trauma
Abel González, MD, Iván Figueroa, MD, Reynold López, MD, Abelardo Alvarez, MD, E. Santiago Delpín, MD, J. O. Just Viera, MD
- 10:50 a.m. Application of Radioimmunoassay Techniques to Diagnosis of Hypersensitivity Lung Diseases
Roy Patterson, MD
- 11:10 a.m. Recent Advances and Handling of High Risk Obstetrical Problems
Hugo B. Riffel, MD
- 11:30 a.m. The Modern Critical Care Unit Principles and Modus Operandi
Burton A. Waisbren, MD
- 12:00 m. Conferencia Magistral Dr. Ramón J. Sifre - Salón Isla Verde "A"
- 1:00 p.m. Almuerzo - Salón Tropicoro (Cortesía de La Cruz Azul de Puerto Rico)
- 3:00 p.m. a 5:00 p.m. Panel Sobre Antibióticos - Moderador : *Ramón H. Bermúdez, MD*
James J. Rahal, MD, William Sandusky, MD, Burton A. Waisbren, MD

JUEVES 7 DE NOVIEMBRE

Salón "El Chico"

SECCION DE MEDICINA INDUSTRIAL,
COLEGIO DE ABOGADOS Y
INDUSTRIAL MEDICAL ASSOCIATION - P. R. Chapter

Moderadores: *Luis J. Flores Vilar, MD, Harvey Nachman, Esq., Pedro A. Molano, MD*

- 9:00 a.m. SIMPOSIO — Normas de Evaluación de Incapacidades de Compensación, Especialmente de Accidentes de Trabajo, Federal, De Retiro, Seguro Social, etc.

Ponentes Médicos:

Nathan Rifkinson, MD, John Simons, MD, José Freyre, MD, Héctor Sampayo, MD, Carlos Acevedo Defilló, MD, José Torres Ramos, MD, Rafael Rivera Pérez, MD, Antonio Simonian, MD

Ponentes Abogados:

Harvey Nachman, Esq., Stanley Feldstein, Esq., Lic. María del Carmen Arroyo Villamil, Jorge Márquez Gómez, Esq., Hon. Juez Félix de Jesús, Lic. Rafael Rivera Genario

- 12:00 m. Valor del Electromiograma en la Medicina Industrial
Sylvia Negrón, MD
- Síndrome de Ansiedad del Accidentado en la Medicina Industrial
Angel Gregorio Gómez Meléndez, MD
- 1:00 p.m. Almuerzo - Salón Tropicoro (Cortesía de Cruz Azul de Puerto Rico)

VIERNES 8 DE NOVIEMBRE

Salón Isla Verde "A"

SYMPOSIUM ON
MENTAL DEPRESSION IN THE LIFE CYCLE

- 8:15 a.m. Registration - Grand Lobby Entrance to Isla Verde Parlors
- 9:00 a.m. Symposium Welcome
Rosa E. Fíbl, MD, Chairperson - Antonio De Thomas, MD, Co-Chairperson
- 9:10 a.m. Childhood and Adolescent Depressions
E. James Anthony, MD, Jack C. Westman, MD
- 9:50 a.m. Speakers Dialogue and Panel: Audience Questions
Enrique Rivera, MD, Moderator, Drs. Anthony and Westman, Panelists
- 10:25 a.m. Masks of Depression: Syndromes Masquerading as Somatic Disorders
Shervert H. Frazier, MD, Jules H. Masserman, MD
- 11:05 a.m. Speakers' Dialogue and Panel: Audience Questions
Víctor Bernal, MD, Moderator - Drs. Frazier and Masserman, Panelists
- 11:35 a.m. Recess
- 12:00 m. Family Depressions: Death and the Dying Patient
Co-Moderators: *Drs. Bernal and Rivera*
Panelists: *Drs. Anthony Frazier, Masserman and Westman*
- 1:20 p.m. Plenary Session: Audience Forum
Co-Moderators: *Drs. Bernal and Rivera*
Panelists: *Drs. Anthony Frazier, Masserman and Westman*
- 2:00 p.m. Summary
Víctor Bernal, MD
- 2:10 p.m. Conclusion
Enrique Rivera, MD
- 2:15 p.m. AMPR Symposium Luncheon - Tropicoro Room

Acknowledgment: This Symposium has been made possible through an educational grant-in-aid from and with the administrative assistance of GEIGY Pharmaceuticals, Audsley, N. Y.

VIERNES 8 DE NOVIEMBRE

Salón Isla Verde "B"

Oswaldo Ramírez Muxó, Moderador

- 9:00 a.m. Cystinosis Presenting as Bartter's Syndrome
José F. Pascual, MD, Carmen A. Sáenz, MD
- 9:20 a.m. General Approach to the Diagnosis of Autoimmune Disorders
Robert M. Nakamura, MD
- 9:50 a.m. Chlorambucil in the Treatment of Minimal Lesion Steroid - Dependent Nephrotic Syndrome of Childhood
José F. Pascual, MD, Aurea Muñoz, MD, María T. Meléndez, MD
- 10:10 a.m. Receso
- 10:30 a.m. Survival Parameters for Renal Preservation
E. Santiago Delpín, MD, L. H. Toledo Pereyra, MD, A. W. Moberg, MD, C. O. Callender, MD, T. J. Buselmeier, MD, C. M. Kjellstrand, MD, R. L. Simmons, MD, J. S. Najarian, MD
- 10:50 a.m. Chronic Hemodialysis in Children and Adolescents
José F. Pascual, MD, Aurea Muñoz, MD, María T. Meléndez, MD
- 11:10 a.m. Hiporeninemic Hypertension - Mechanism and Treatment
Wilfredo Mercado, MD, José L. Cangiano, MD, Arturo Treviño, MD, Rafael Ramírez González, MD, Oswaldo Ramírez Muxó, MD
- 11:30 a.m. Lupus Erythematosus -- Recent Concepts in Diagnosis and Evaluation
Robert M. Nakamura, MD
- 12:00 m. Importance of Renal Biopsy Studies in the Diagnosis and Management of Lupus Nephritis and Goodpasture Syndrome
Jesús Vázquez, MD
- 1:00 p.m. Almuerzo - Salón Tropicoro
- 3:00 p.m. a 5:00 p.m. Seminario de Alergia
Roy Patterson, MD

VIERNES 8 DE NOVIEMBRE

Salón "El Chico"

HOSPITAL UNIVERSITARIO
DEPTO. MEDICINA FISICA Y REHABILITACION

- 8:30 a.m. ASPECTOS SEXUALES EN EL PACIENTE CON DAÑO A CORDON ESPINAL DESDE EL PUNTO DE VISTA DEL FISIATRA
Rafael Berríos Martínez, Moderador
- Enfoque del Problema - *Ivette Pratts, MD*
Actitud del Paciente Incapacitado Ante Sus Problemas Sexuales y la Actitud del Equipo de Rehabilitación Ante Este Problema - *Rafael Berríos Martínez, MD*
Conducta y Manejo de Alteraciones Sexuales en Afecciones Incapacitantes - *Sergio López Correa, MD*

10:10 a.m. Receso

HOSPITAL DE VETERANOS

10:30 a.m. REHABILITACION CARDIO-PULMONAR

Herman J. Flax, Moderador

¿Qué es la Rehabilitación del Paciente Cardíaco? Definición, Propósitos y "Rationale" del Programa del Paciente Cardíaco - *Benigno Fernández, MD*

Selección de Pacientes para el Programa - Criterios a Seguirse - *Esteban Linares, MD*

Rehabilitación del Paciente Cardíaco Agudo - *Arturo Arché Matta, MD*

Rehabilitación del Paciente Cardíaco Crónico - *Moisés Santiago Vasallo, MD*

Rehabilitación de Pacientes con Enfermedad Obstructiva Pulmonar Crónica - *Herman J. Flax, MD*

1:00 p.m. Almuerzo - Salón Tropicoro (Cortesía de Seguros de Salud de P. R. (Triple S))

SABADO 9 DE NOVIEMBRE

Salón Isla Verde "A"

Luis A. Román, MD, Moderador

9:00 a.m. The His Electrogram

Luis A. Román Irizarry, MD, Henry Mayo, MD, Jorge Oms, MD

9:20 a.m. Clinical Value of Nuclear "Flow" Studies

Angel L. Rodríguez Rosado, MD, Julio V. Rivera, MD

9:40 a.m. Clinical Spectrum of the Sick Sinus Syndrome

Aureo Calderón, MD, Luis A. Román Irizarry, MD

10:00 a.m. Left Ventricular Wall Motion During the Isovolumic Relaxation Period

Pablo I. Altieri, MD, Shirey M. Wilt, MD, Richard F. Leighton, MD

10:10 a.m. Receso

10:30 a.m. Clinical and Hemodynamic Studies in Patients with Idiopathic Subaortic Stenosis — Experience at the San Juan City Hospital

Pedro A. Mora, MD, Luis A. Román Irizarry, MD, José Fernández Martínez, MD

10:50 a.m. The Coronary Arteries in Schemic Heart Disease — Facts and Fancies

William C. Roberts, MD

11:20 a.m. Coronary Artery Disease and Prolapse of the Posterior Leaflet of the Mitral Valve

Juan M. Aranda, MD, Benjamín Befeler, MD, Abraham Embi, BS, Ralph Lazzara, MD

11:40 a.m. Hemodynamic Characteristics of Obstructive Cardiomyopathy of the Right Ventricle

Benjamín Befeler, MD, David E. Wells, MD, Humberto Machado, MD, Juan Aranda, MD

12:00 m. El Intervalo P-R en el Electrocardiograma de 43,600 Puertorriqueños

Ramón M. Suárez, MD, Ramón M. Suárez, Jr., MD

12:30 p.m. Conferencia Magistral "Ramón M. Suárez" - La Otra Cardiología: la del Hombre

Francisco Vega Díaz, MD

1:30 p. m. Almuerzo y Toma de Posesión del Quincuagésimo Tercer Presidente de la Asociación Médica de P. R., Jaime A. Olmo, MD, en el Salón Tropicoro.

SABADO 9 DE NOVIEMBRE

Salón Isla Verde "B"

Enrique Vélez García, MD, Moderador

- 9:00 a.m. BCNU in Lymphoma
Antonio Grillo, MD, Enrique Vélez García, MD
- 9:20 a.m. El Centelleograma en la Enfermedad Neoplásica del Esqueleto
Arístides Sarmiento, MD, Aldo E. Lanaro, MD, René Dietrich, MD
- 9:40 a.m. El Futuro de la Quimioterapia en el Carcinoma de Próstata
Antonio J. Grillo, MD, Enrique Vélez García, MD
- 10:10 a.m. Receso
- 10:30 a.m. Achievements of a Detection Program for Carcinoma of the Cervix in Puerto Rico
Isidro Martínez, MD
- 10:50 a.m. Hermafroditismo Verdadero
Carlos J. Cintrón, MD, Naydamar Pérez de Otero, MD
- 11:10 a.m. Virilización Completa en Hiperplasia Congénita Adrenal
Carmen Sáenz, MD, Mary Toro, MD, Carlos J. Cintrón, MD, Naydamar Pérez de Otero, MD, Roberto Fortuño, MD, Ana Rodríguez, MD
- 12:00 m. El Programa Clínicas Multifásicas como Factor de Enlace entre la Salud Pública y la Práctica Privada
Orestes Mesa, MD, MPH
- 12:30 p.m. Conferencia Magistral "Ramón M. Suárez" - Salón Isla Verde "A"
- 1:30 p.m. Almuerzo y Toma de Posesión - Salón Tropicoro

SABADO 9 DE NOVIEMBRE

Salón "El Chico"

SECCION DE NEUMOLOGIA

David E. García, Moderador

- 9:00 a.m. Patofisiología del Asma Bronquial
Pedro M. Mayol, MD
- 9:30 a.m. Etiología del Asma Bronquial
José Moreno, MD
- 10:10 a.m. Receso
- 10:30 a.m. Manejo Ambulatorio del Paciente con Asma
Angel M. Rivera, MD

- 11:00 a.m. Fibrosis Quística
 Gonion Harrison, MD
- 11:30 a.m. Resucitación en Fallo Respiratorio
 Frankie Rodríguez, MD
- 12:00 m. Rehabilitación del Paciente con Problemas Crónicos Pulmonares
 Gonion Harrison, MD
- 12:30 p. m. Conferencia Magistral “Ramón M. Suárez” - Salón Isla Verde “A”
- 1:30 p.m. ALMUERZO Y TOMA DE POSESION - Salón Tropicoro

RESUMEN DE LA REUNION EXTRAORDINARIA DE LA CAMARA DE DELEGADOS DE LA AMPR, CELEBRADA EL 14 DE SEPTIEMBRE DE 1974

La reunión dio comienzo a las 9:45 a.m. procediendo a la Invocación del acto por el Dr. Luis Viñas Sorbá. La Dra. Judith Román, Secretaria, leyó la convocatoria cursada.

A continuación el Dr. Gerardo Sáenz, Presidente de la Cámara, informó que esta reunión había sido convocada a petición del Presidente de la AMPR, para tratar sobre varios estudios e informes sobre el Seguro de Salud Universal.

La Dra. Rosa E. Fiol, Presidente de la AMPR, expresó que "Hemos venido durante los últimos seis meses más preocupados que anteriormente sobre exactamente qué era lo que estaba haciendo la Comisión nombrada por el Hon. Gobernador de Puerto Rico para establecer un Seguro de Salud Universal. A nuestras manos llegaron recientemente, no en forma oficial, una serie de estudios e informes que se nos dijeron habían sido preparados por dicha Comisión. No sabíamos si se le habían presentado o no al Gobernador, a pesar de que ya para el día 25 de julio tenía conocimiento de que a él se le había presentado algo.

Ante esta situación decidimos entonces que los miembros de esta Cámara tuvieran una copia de dichos informes para que vieran exactamente por donde andaban los pensamientos de las personas que estaban trabajando dentro de esta Comisión. Si eran los pensamientos también de la Comisión o no, nosotros no sabíamos, pero definitivamente esto no podía ser un invento y nada más.

Consideramos que es tiempo que los médicos en Puerto Rico se den cuenta que aquí hay personas que creen que los servicios médicos deben de cambiar y que deben de cambiar drásticamente.

Aparentemente los artículos que han salido en los periódicos en los últimos días les han quitado un poco el miedo por el Seguro de Salud Universal, pero yo quiero decirles a ustedes que por más que digan los periódicos, va a venir un Seguro de Salud Universal. Creo que no debemos volver otra vez a descansar y

decir aquí no ha pasado nada, que vamos a seguir como estamos, porque esto de alguna forma va a venir. Y considero que si algo hay que cambiar debe ser la profesión médica la que proponga y lleve a cabo los cambios necesarios."

El Dr. Sáenz señaló que "Después de que se aprobara la reunión extraordinaria de esta Cámara el 24 de agosto consideramos que había poco tiempo para trabajar y decidimos nombrar una serie de Comités que estudiaran todos estos informes de la Comisión y nos sometieran en esta reunión sus informes, comentarios y recomendaciones.

Para conocimiento de todos ustedes, el jueves 12 de septiembre me llamó el Dr. Juan R. Colón Pagán a mi oficina y sostuvimos una conversación de cerca de 45 minutos. Me pidió que nos reuniéramos la doctora Fiol y este servidor con él y en la tarde de ayer, viernes 13 de septiembre, estuvimos reunidos por tres horas. Nos indicó y dio consentimiento de que les trajese el mensaje que él nos transmitió y fue en el sentido de que ese documento es el que ellos tenían preparado para el 30 de junio, documento que al presente él considera que no es aceptable, documento que él rechaza totalmente. Han empezado a trabajar de nuevo, están cambiando algunas cosas y hasta el presente tienen tres o cuatro informes totalmente terminados, pero lo que nos leyó, y ésta es una opinión muy personal mía, se han cambiado frases, se han cambiado palabras, pero básicamente encuentro que es lo mismo.

La Comisión en vez de cinco es de seis, los poderes prácticamente son los mismos; la Junta Examinadora sigue en forma independiente, pero adscrita a la Comisión y en íntima relación con la Comisión; la forma de pago es por sueldo, por capitación y aceptan también que pueda ser por "fee for service". Ahora, en qué forma se implementaría esto, lo desconecemos.

La petición que le hicimos es que todos los trabajos que fueran haciendo nos los remitieran para estudiarlos, a lo que no obtuvimos contestación.

Posiblemente muchos médicos, socios de nuestra matrícula y otros que no son socios, no tienen una idea clara de lo que está sucediendo y esta idea se puede transmitir a través de todos ustedes que son los portavoces y la tribuna y tratar de indicar a todos los médicos lo que está ocurriendo porque muy bien saben ustedes que hay médicos que creen que el seguro no va, otros que no es factible, pero algo viene y la base de lo que vendrá es esto, se cambien frases, se cambien artículos completos, pero lo básico es esto.

A continuación los Comités nombrados nos darán sus comentarios sobre los estudios e informes de la Comisión:

FUENTES DE FINANCIAMIENTO

Este Comité estaba integrado por el Dr. Fernando J. Cabrera, Presidente, Dr. Luis F. Sala, Dr. Elí A. Ramírez, Sr. Juan Labadie Eurite, Sr. Rafael Ubarri. El Prof. Bartolomé Stipee no asistió a las reuniones pero fue invitado a las mismas.

“El documento sometido por los consultores Francisco Pedraza y Ernesto Betancourt informa que según el estudio actuarial conducido, el plan de seguro de salud universal costará \$540 millones el primer año. Nosotros somos de opinión que el costo del programa propuesto sobrepasará esta cantidad en el primer año. Basamos nuestra contención no en un estudio actuarial, sino en una aplicación de las experiencias acumuladas por la Triple S. Hemos estimado que el costo de los servicios nada más sobrepasa la cantidad de \$540 millones. Los costos de administración hay que añadirlos al costo de los servicios y llevará la realidad del costo a una suma sustancialmente mayor.

Nuestro Comité ni siquiera ha tratado de estimar los costos de administración del plan. Considera el Comité que un estimado juicioso es un proyecto de investigación en sí ante la magnitud de encomiendas y responsabilidades de la Comisión de Seguro de Salud Universal propuesta y de las corporaciones de servicio de salud que se recomiendan.

Somos de opinión que se hará extremadamente difícil obtener el ingreso contributivo que proponer los asesores para el financiamiento del plan. El Departamento de Hacienda dispone de estadísticas que nos permiten evaluar el resultado de la imposición de las contribuciones propuestas. Es nuestro criterio que para producir \$15 millones de nuevos arbitrios en cigarrillos se requiere un impuesto mayor de 10 centavos adicionales, sin tomar en cuenta la elasticidad de la demanda por este artículo. Los arbitrios sobre los cigarrillos montan ahora a 41 centavos por cajetilla, y la última

vez que fueron aumentados fue este mismo año por la cantidad de 10 centavos. Se estima que este último aumento de 10 centavos producirá menos de los \$15 millones que se consignan en el estudio. Por consiguiente, los 10 centavos adicionales propuestos, rendirán proporcionalmente menos. De hecho, para producir los \$15 millones habría que casi duplicar el arbitrio actual. El arbitrio sobre bebidas alcohólicas sigue el mismo patrón que los cigarrillos.

Hay que tomar en cuenta que el volumen de arbitrios sobre estos dos productos, cigarrillos y bebidas, ha llegado a un nivel tal que crea hoy problemas de evasión a base de contrabando. El continuar aumentándolos agravaría este problema. Este Comité, por lo tanto, cree que la solución que en el pasado ha sido tan fácil de gravar, bebidas y cigarrillos, deja ya de ser productiva y deja de ser también la propuesta automática de todos los propagandistas de proyectos a financiarse por contribuciones.

La petición de un 25 por ciento de aumento a producirse por una reforma contributiva es un error. La reforma contributiva contempla más bien una redistribución integral del sistema impositivo donde el conjunto de lo producido por las contribuciones no habrá de cambiar significativamente. Lo que persigue la reforma contributiva es una mayor equidad más que un mayor ingreso.

Por último, este Comité quiere expresar su opinión sobre la contribución sobre nóminas propuesta. Es conocido de todos en Puerto Rico la lucha por muchos años por reducir una tasa de desempleo extremadamente alta. En un empeño por reducir este problema se busca el establecimiento de industrias que usen mano de obra intensamente. Una contribución sobre nóminas como la propuesta, y más aún, como la que será al final luego de conocerse el verdadero costo del programa, resulta onerosa para estas industrias y un impedimento para su promoción.

Por último, este Comité expresa su preocupación de que se considere como fuente de financiamiento lo presupuestado actualmente para una serie de programas de gobierno relacionados con la salud.

Este Comité no entiende cómo puede esperarse que los Municipios de Puerto Rico continúen aportando, como en el pasado, al financiamiento de la salud. La organización que se propone es una en que se elimina totalmente la participación de los Municipios y de los funcionarios municipales. Centraliza la administración de salud en un organismo nuevo desconectado totalmente de la realidad política y social del país. Por ello,

el Comité no ve cómo los Alcaldes podrán motivarse a perder el uso de unos dineros por los cuales no recibirán directamente ningún reconocimiento.

El Comité entiende que los fondos actualmente usados por el Fondo del Seguro del Estado y la Administración de Compensación por Accidentes de Automóviles no están totalmente disponibles para cubrir los servicios cubiertos por el plan. Entendemos que estos fondos ya cubren una serie de servicios, aquellos por los cuales han sido creadas estas agencias, y que la operación del plan de Seguro de Salud Universal no creará una magia que haga más eficiente la operación de estas empresas. Por lo tanto, dudamos de que estos fondos puedan realmente estar disponible como fuente de fondos para hacer posible la ampliación de servicios que se proponen."

El Dr. José M. Torres Gómez señaló que este fue uno de los estudios que no se le dio al Comité Médico Asesor.

INFORME TITULOS III Y IV

Este Comité estaba integrado por los doctores Emilio A. Arce, Presidente, José M. Torres Gómez, Freddy Vélez Herrera, Calixto Pérez Prado, Calixto Romero y el Sr. Hatuey Díaz Cruz.

"El Título III de la propuesta tiene que ver con la creación de "La Comisión de Salud de Puerto Rico", organismo que regentaría en su totalidad el Seguro Universal a establecerse, y que de acuerdo con la ley en estudio estaría formada por cinco miembros, a ser nombrados por el Gobernador de Puerto Rico y ratificados por el Senado; que una vez instalados en sus cargos tendrán la potestad de nombrar todo el personal que hubiese necesidad y que no estaría dicho personal sometido a la Ley 345 - 12 de mayo de 1947, o Ley de Personal de Puerto Rico.

Estos comisionados no se establece si serán uno o más médicos o de profesiones de servidores de salud del pueblo de Puerto Rico. No establece tampoco la ley qué asesoramiento debería buscar el Señor Gobernador para nombrar los comisionados. No establece qué evaluación se haría para decidir si el nombrado estaría apto para ejercer dicho alto cargo.

Para la destitución de uno o varios de los comisionados sólo lo podría hacer el Gobernador de Puerto Rico siempre que resultara condenatoria una vista especial realizada por una terna de Jueces del Supremo.

Ningún comisionado una vez descargada su función administrativa podrá representar o trabajar o asesorar a ninguna compañía, corporación, sociedad que preste o administre servicios de salud que haya sido afectada

por cualquier procedimiento de la Comisión.

Esto aplica igualmente a cualquier empleado que su violación conlleve la sentencia de delito grave con multa de \$10,000 o cinco años.

Dicha Comisión será el organismo supremo y tendrá todos los poderes necesarios y suficientes para garantizar al puertorriqueño el DERECHO A LA SEGURIDAD DE LA SALUD. Esta Comisión tendrá plenos poderes para:

- a) Asegura la efectividad de los programas de educación.
- b) Establecerá un sistema que asegure la continuidad y confidencialidad del récord médico pero que permita recopilar información cuando la Comisión así lo estime.
- c) Establecerá un sistema de retiro: seguro de desempleo; seguro de vida, para los profesionales que presten servicios a tiempo completo a la Comisión.
- d) Podrá hacer cuanto estudio o investigación crea oportuno sobre asuntos que a su juicio afecten la ciencia, la educación de profesionales, y podrá por citación requerir la información que sea necesaria, la comparecencia de testigos y la presentación de datos u objetos y someter a un interrogatorio BAJO JURAMENTO para completar los antes dichos estudios e investigaciones; no pudiendo personal alguna negarse a nada de lo anterior so pena de exponerse a proceso criminal que pudiera resultar en la destitución de su empleo o profesión, pudiendo la Comisión multar hasta \$5,000 por cualquier acto u omisión la violación a las disposiciones de esta ley, o de sus Reglamentos y Ordenes.

También podrá esta omnipotente Comisión inspeccionar récords, inventarios, documentos y FAMILIARIDADES FISICAS de personas naturales o jurídicas, privadas y públicas, dedicadas al estudio o enseñanza de las ciencias, adiestramiento de profesionales y/o prestación de servicios de salud.

Será de Jurisdicción EXCLUSIVA DE LA COMISION:

Distribuir y organizar los recursos y la prestación de servicios de salud en Puerto Rico.

Elaborar un plan educacional para el desarrollo de las ciencias, el adiestramiento y educación de los profesionales en Puerto Rico, que incluya disposición para crear Comités que especificarán los requisitos educativos necesarios para ser admitido al examen de reválida.

Será poder exclusivo e irrevocable de la Comisión publicar un mapa regional de Puerto Rico que no se podrá alterar si la Comisión no le permite al Gobernador citar las Cámaras Legislativas para que éstas entonces legislen

cambios oportunos o necesarios.

Será poder exclusivo de la Comisión nombrar un Comité Examinador otorgando licencia renovable ANUAL según las normas que establezcan; y que tendrá poder sobre todas las profesiones que tengan que ver con la salud.

Establecerá entre las causas de cancelación de la licencia del profesional:

Haber violado gravemente los cánones de ética según pronulgados por la Comisión, en consulta con el Comité Examinador.

Será poder exclusivo de la Comisión certificar las especialidades dentro de cada profesión; y

Reglamentará la práctica de las profesiones de salud, honorarios, etc.

Fijará precios de servicios hospitalarios, casas de salud, convalecencia, etc.; tarifas de laboratorios clínicos, y patología y todo estudio radiológico.

En el Título IV que tiene que ver con las funciones administrativas de las Corporaciones de Servicios de Salud o Regiones no creemos que este Comité debe expresarse siendo básicamente funciones que van acorde con lo general en este tipo de organización regionalizada, aunque creemos nuestro deber resaltar que este Título contempla la creación de la Corporación a base de tres miembros nombrados por el Gobernador, cinco por Alcaldes y asambleas y cinco por los profesionales envueltos a tiempo completo; lo que se presta a cabildos, presiones y arreglos o componendas.

Esta Corporación tendrá un Director Ejecutivo que servirá a VOLUNTAD DE LA JUNTA y será el único responsable por la ejecución de la política general y los reglamentos de la Corporación creada, pudiendo este Director CONTROLAR, nombrar, suspender y destituir de su personal, pero también podrá NOMBRAR los profesionales que prestarán el servicio a la Corporación, y con la recomendación del Comité de Evaluación Profesional adscrito a la Corporación podrá terminar o destituir los servicios que estuviera prestando cualquier profesional de la salud.

Esta Comisión cree ya suficiente lo ante ustedes traído para su información y entendemos claro que el Título III y IV, pero muy en especial el Título III, crea un organismo totalitario, radical y de un poder extraordinario, que en situaciones sobrepasa al poder ejecutivo y al poder legislativo y que viola los principios fundamentales de la vida misma, no sólo del servidor de la salud al pueblo, sino al pueblo mismo de una forma indirecta.

Opinamos que esta ley, en su contexto global, establece una política de funciones peligrosas y dañina para

la mejor salud de nuestro pueblo, y que en ningún momento se hace concisa sobre ningún apartado llevando entre líneas siempre una ambivalencia que la ayudaría a ella misma a hacer aquello que a su juicio creyera oportuno en casi cualquier situación.

Creemos que esta ley, tal como está redactada al presente, y por mucho que se le recorte o enmiende, conlleva en su esencia unos principios fundamentales que son inadmisibles bajo un estilo de vida democrático y en un área de escasos recursos económicos.

Vemos con tristeza cómo esta ley destruye el esfuerzo del Gobierno, de las sociedades obreras y privadas empeñadas por años en lograr algo mejor para la prestación de la salud del pueblo; destruye el forjato y los logros duramente realizados por espacio de 40 - 50 años para poder llegar a este día, con un índice de mortalidad infantil de los más bajos del mundo y una longevidad que sobrepasa a la de países ricos y muy desarrollados.

Por ello entendemos que todos los esfuerzos realizados para que el camino de cubrir las lagunas que indudablemente existen sea otro; y recabamos de todos ustedes su mejor inteligencia y diligencia hacia la consecución de esta importante meta. La calidad de la medicina y por ende la salud de nuestro pueblo se nos va de las manos a aquellos que menos entienden de esto, y sí mucho de economía; problemas políticos y sociales.

Recomendamos que el Título III se cambie radicalmente hacia una Comisión de 5 - 3 médicos y de unos poderes normales para la implementación de un Seguro de Salud Universal saludable.

INFORME COMITE RECURSOS HUMANOS - TITULO VII

Este Comité estaba integrado por los doctores José L. Jiménez Vélez, Presidente, Héctor Buitrago, Ramberto Pérez Ribí, Antonio Bauzá y Sra. Ruth Pérez Ribí. Contó además con la colaboración del Dr. Lorenzo Martínez y el Dr. Luis F. Sala.

El Informe Núm. VII de la Comisión de Seguro Universal de Salud sobre Recursos Humanos hace un estudio y recomendaciones sobre los recursos humanos en Puerto Rico en el campo de la salud e incluye en el mismo los problemas de recursos humanos en los médicos, dentistas, enfermeras, administradores de hospitales y personal paramédico, incluyendo tecnólogos médicos y otro personal. Sin embargo, no menciona los técnicos de radiología, quienes recientemente han sido afectados por legislación colegial.

Nuestro Comité, por unanimidad, decidió estudiar y analizar solamente lo concerniente a la profesión médica,

ya que creemos que al no tener la información y elementos de juicio necesarios no podemos opinar sobre los problemas de recursos humanos en el campo de la salud fuera de la profesión médica. Sin embargo, al contar entre nosotros con la presencia de la señora Ruth Pérez Ribí, Presidenta del Colegio de Enfermeras Graduadas de P. R. y miembro de la Junta Consultora de la Comisión del Seguro Universal de Salud, se discutió el problema de enfermería, resumiéndose a grandes rasgos lo siguiente:

Que existen en Puerto Rico al presente más de 5,000 enfermeras graduadas y que está aumentando esta cifra en promedio de 500 enfermeras que se gradúan anualmente en los distintos centros de entrenamiento a nivel universitario en Puerto Rico. Es de notar que el 98 por ciento de los estudiantes de enfermería, en la actualidad dependen de ayuda económica de algún tipo para cursar sus estudios. La mayoría son becarios del Departamento de Salud, lo que indica que Puerto Rico puede esperar un número suficiente de enfermeras en los próximos años para llenar a cabalidad las necesidades de recursos humanos en este campo. Estamos de acuerdo con la exposición que hace el Informe Núm. VII en cuanto a la distribución y nuestra única recomendación en este sentido es en dar énfasis a la necesidad de mejorar el entrenamiento en la experiencia clínica en los actuales programas de enfermería de dos años. (Añadimos un informe de la Sra. Ruth Pérez Ribí relacionado con el problema de enfermería y los recursos humanos en el campo de la salud).

Al considerar el problema de los recursos humanos de los médicos usamos como referencia los siguientes estudios:

- 1) Estudios sobre Problemas Médicos Hospitalarios en Puerto Rico, de los Dres. Trussell y Arbona, informe sometido al Gobierno y a la Legislatura de Puerto Rico en el año 1962 y mejor conocido como el Informe Trussell.
- 2) Informe sobre la Escasez de Servicios Médicos en Areas Servidas Inadecuadamente, estudio sometido al Hon. Luis Muñoz Marín, Gobernador de Puerto Rico, en el año 1964 por el Dr. Guillermo Arbona, Presidente de la Comisión de 16 miembros nombrada por el Gobernador en el año 1963.
- 3) Memorias de la Conferencia Sobre Recursos Humanos en el Campo de la Salud, celebrada en el Hotel Cerromar en Septiembre de 1972 siendo Gobernador de Puerto Rico el Hon. Luis A. Ferré.
- 4) Deposición del Dr. William A. Sodeman, Presidente del Consejo de Educación Médica de la Asociación Médica Americana, y a nombre de la A.M.A.,

ante el Sub-Comité de la Cámara de Representantes de los Estados Unidos de América (Ways & Means Committee).

- 5) El Directorio de Internados y Residencias aprobadas de la Asociación Médica Americana del año 1973-74.

- 6) Informe del Dr. Charles C. Edwards, Secretario Auxiliar de Salud, HEW, ante la Asociación de Colegios de Medicina Americana en el año 1973.

Al estudiar el Informe Núm. VII sobre Recursos Humanos encontramos que su contenido informativo relacionado con las cifras sobre el número de médicos existentes en Puerto Rico, su proporción en cuanto a la población, las causas y relaciones de mala distribución tanto geográfica como por especialidad, y los distintos efectos que ha traído la especialización en la distribución geográfica de los médicos de Puerto Rico, son correctas y verdaderas. Tiene en la actualidad Puerto Rico un médico por cada 835 habitantes comparado por uno (1) por cada 1,081 habitantes en el año 1962 y que sobrepasa ya lo estimado en el Estudio Trussell de que hubiese un (1) médico por cada 100,000 habitantes, que era lo que este estudio contemplaba como lo ideal para Puerto Rico para el año 1970.

De acuerdo con las últimas cifras suministradas por la Comisión de Salud de las Naciones Unidas, en el año 1972 Puerto Rico tenía 120 médicos por cada 100,000 habitantes en comparación con 135 por cada 100,000 en Suecia y 172 por cada 100,000 en los Estados Unidos.

En información suministrada ante el Senado de Puerto Rico por el doctor Carlos Girod, Decano de Medicina de la Escuela de Medicina de la Universidad de Puerto Rico, hay en la actualidad alrededor de 3,000 puertorriqueños estudiando medicina en universidades de la República Dominicana, España y México, sin contar los que estudian en Puerto Rico y Estados Unidos. (Véase San Juan Star, Septiembre 10, 1974). Todo esto nos lleva a la conclusión de que en la actualidad no existe ni existirá en un futuro próximo en Puerto Rico escasez de personal médico ni crisis por falta de médicos. La realidad es, como muy bien han apuntado todos los estudios sobre recursos humanos que se han hecho en Puerto Rico, que existe en nuestro país una mala *distribución* de médicos tanto geográfica como por especialidades. Es bueno anotar aquí la preocupación de nuestro Comité al revisar los estudios anteriores sobre recursos humanos, estudios que han costado al erario público cientos de miles de dólares y cuyas recomendaciones, por razones aún desconocidas, no se han puesto en práctica ni se han

considerado factibles en la gran mayoría de los casos. Notamos además que de las pocas recomendaciones que se han puesto en práctica, muy pocas han dado resultados positivos, por lo que concluimos antes de entrar en nuestro análisis del estudio Núm. VII de la Comisión, que el problema de recursos humanos en el campo de la salud es uno extremadamente complejo, difícil de analizar y que será necesario seguir estudiando el mismo en los años venideros para poder encontrar soluciones reales y prácticas. Nuestro Comité unánimemente recomienda que cualquier sistema de salud que se adopte debe tener como propósito principal el que la prestación de servicios debe estar *accesible* a toda la población que la necesite, que estos servicios sean de *buena calidad* y que los mismos se brinden a un costo que la gente pueda pagar.

ANÁLISIS DE LAS RECOMENDACIONES

Al analizar las recomendaciones del estudio Núm. VII de la Comisión de Seguro Universal de Salud, tenemos que estar de acuerdo que el problema mayor que existe en Puerto Rico con respecto a recursos humanos en el campo de la salud es fundamentalmente el de la pobre distribución.

1) *En cuanto a la recomendación Núm. 1* que tiene que ver con el financiamiento del plan universal como manera de igualar el poder adquisitivo del ciudadano con respecto a los servicios de salud, estamos de acuerdo con el contenido de dicha recomendación de que un plan nacional, aunque podría mejorar en parte la distribución de médicos, *no resolverá* el problema de accesibilidad de cuidado médico debido a las razones que apunta dicho estudio de que la práctica médica *no obedece* a las reglas usuales de demanda y suministro. Hay una serie de factores socio-económicos, familiares, culturales y educacionales que siempre influenciarán al médico individualmente en el área donde éste desea localizarse. Idealmente, los servicios médicos debe estar distribuidos equitativamente de acuerdo con las necesidades geográficas de la población en relación a la demanda por estos servicios. Sin embargo, la *experiencia universal* es que en el caso de la distribución de médicos esto no es así, ya que al igual que las otras profesiones de servicio éstas han sido influenciadas marcadamente por condiciones socio-económicas y por la dinámica urbana y rural. El resultado ha sido una diferencia dramática en la concentración de médicos en las distintas áreas poblacionales. Esto es así en Puerto Rico según lo demuestran todos los estudios, y el más reciente nos dice que el área de la región noreste, con un 39 por ciento de la población, tiene 75 por ciento de todos los especialistas en

Puerto Rico, mientras que el 61 por ciento de la población depende del otro 25 por ciento para la prestación de servicios. Este efecto de la especialización es un hallazgo general en los países más desarrollados con llamados servicios médicos *adecuados*.

2) *La recomendación Núm. 2 del Estudio Núm. VII* tiene que ver con los *incentivos económicos* que se sugieren como medios de atraer médicos a áreas donde existe escasez relativa. Queremos señalar que desde hace varios años ciertos incentivos como diferencial en paga, vivienda y paga por guardias de emergencia han sido implantados por el Departamento de Salud de Puerto Rico sin éxito notable ya que sigue existiendo escasez de médicos en el servicio público en los Municipios más pequeños. Estamos de acuerdo con las recomendaciones de la Comisión en cuanto a que los incentivos económicos que se ofrecen resultan caros y además deben ser ofrecidos a todos, tanto aquellos que son inducidos por el incentivo como a los que van a estas áreas voluntariamente. Este Comité cree que estos incentivos *no* se deben eliminar, pero sí deben de reevaluarse y tal vez ampliarse a la luz de las realidades actuales (Ejemplo: *Beneficios marginales* como:

- 1) Viajes de estudios con gastos pagos.
- 2) Póliza de malapráctica.
- 3) Educación médica continuada.
- 4) Protección de los hijos en las escuelas y otros).

3) *La recomendación Núm. 3 del Estudio Núm. VII* tiene que ver con el mejoramiento de las condiciones de trabajo en las áreas deficientemente servidas por médicos y otro personal. Hablan de construcciones de facilidades médicas, de establecimiento de escuelas de medicina y de promover entrenamiento especial a través de programas especiales y beneficios marginales (Véase párrafo anterior). Con todo esto está de acuerdo nuestro Comité. Sin embargo, la Comisión rechaza la *exención contributiva* como una manera de atraer médicos a estas áreas deficientemente servidas ya que causaría trastornos en la escala económica. Rechazamos esa conclusión ya que la experiencia de Fomento en Puerto Rico, ha sido el uso de la exención contributiva como manera de atraer industrias a las áreas de mayor desempleo. Este Comité cree que se debe ofrecer algún tipo de exención contributiva a los médicos que trabajen en comunidades subdesarrolladas como manera de atraerlas al servicio público. Esta recomendación requiere más estudio para su implementación.

En cuanto a construcción de facilidades médicas, dejamos esta consideración en manos del Comité que estudia los problemas de facilidades médicas actuales y futuras. Creemos que no debe repetirse el error de

construir en todas las poblaciones de Puerto Rico facilidades médicas de tal magnitud que son irreales a la necesidad de la población y que solamente han venido a llenar el ego de alcaldes y políticos, pero que en la práctica han resultado elefantes blancos.

Cualquier plan de salud que se implante en Puerto Rico debe dar cuidadosa consideración no a la presencia física de facilidades médicas y hospitalarias, sino cuánto le tomará al ciudadano promedio llegar a sitios donde se le puedan prestar *servicios primarios de buena calidad*. El auge en las vías de comunicación permite hoy día a la mayor parte de los ciudadanos trasladarse a centros regionales o sub-regionales, con facilidades adecuadas, en cuestión de pocos minutos o a lo sumo una hora. Debe considerarse el uso de medios de transportación avanzados, tales como helicópteros y transportación aérea para la transportación rápida de pacientes graves a los centros de salud especializados. Esto ayudaría considerablemente a resolver el problema de la llamada mala distribución de médicos especialistas en áreas pobremente servidas.

En cuanto al establecimiento de nuevas escuelas de medicina, ya nuestra Cámara de Delegados de la Asociación Médica de Puerto Rico se ha *expresado y reafirmado en apoyar la construcción* de escuelas de medicina en Mayagüez, Ponce, Caguas y otros centros que puedan y estén capacitados para esta labor, bien sean Escuelas Autónomas o expansión de la Escuela de Medicina de la Universidad de Puerto Rico. Estamos de acuerdo que existen actualmente en Puerto Rico facilidades para el entrenamiento en los *años clínicos* de muchos de nuestros estudiantes de medicina que actualmente se encuentran en universidades extranjeras y cuyas facilidades clínicas en algunos sitios deja mucho que desear.

4) *La recomendación Núm. 4 del Estudio Núm. VII* tiene que ver con programas designados a la *redistribución de médicos* a áreas de necesidad. Estamos de acuerdo *en principio* con las recomendaciones de la Comisión, especialmente en lo que tiene que ver con el servicio de recién graduados de medicina que han recibido ayuda económica del gobierno para cursar su carrera. Este Comité recomienda que se *re-estudie la política actual* de dar crédito a los becarios por año de estudio en residencias aprobadas como *requisito de servicio público*. Estamos de acuerdo en que esta medida lo que ha hecho es estimular exageradamente la especialización en detrimento de carreras dedicadas a *cuido de medicina primaria*.

5) *La recomendación Núm. 5 de la Comisión* envuelve la posibilidad de establecer un *servicio compul-*

sorio posiblemente de *dos años*, donde el médico que desea obtener una *licencia regular* tendrá como requisito el servir en áreas de necesidad médica. Esto es lo que se conoce en muchos países como el "servicio social" obligatorio. Este Comité estudió esta recomendación y sugiere recomendar favorablemente esta medida pero con la limitación de tiempo de que sea *un año* y no dos como sugiere la Comisión. Esta medida debe ir unida a las otras recomendaciones, específicamente las que bregan con atractivos especiales, para conseguir que muchos de los médicos que sean enviados a estas áreas poblacionales se establezcan permanentemente en ellas una vez hayan cumplido su tiempo de servicio compulsorio.

6) *La recomendación Núm. 6 de la Comisión* tiene que ver con la creación de un balance geográfico y funcional de médicos con o en las distintas especialidades *controlando* el número de residencias disponibles en diferentes áreas de medicina. Nuestro Comité estudió este aspecto y opina que la necesidad actual en Puerto Rico no estriba en el *control del número* de residencias ofrecidas, como sí en la *clase* de residencias que se ofrecen actualmente. Nuestras recomendaciones al respecto son las siguientes:

- (1) Que se defina oficialmente por la Comisión lo que se entiende por *médico primario*.
- (2) Que se acepte el hecho de que hacen falta más médicos de *cuido primario* en Puerto Rico, aunque es difícil determinar con precisión al presente el número de médicos que se necesitan en esta fase.
- (3) Para llenar la necesidad de más médicos en *cuido primario* tiene que haber una proporción mayor de graduados de medicina en las residencias dedicadas al entrenamiento de médicos en *cuido primario*, especialmente la práctica de familia y la práctica general. Es con mucho pesar que notamos que en el año 1973 *no existe* residencia alguna aprobada en Puerto Rico en práctica de familia, y solamente una residencia en práctica general con un número total de *dos médicos* en este programa, mientras que en medicina interna existen cinco residencias con un total de 138 posiciones disponibles y en cirugía, sin contar las sub-especialidades quirúrgicas, hay un total de cinco residencias aprobadas en donde hay un total de 106 residentes en entrenamiento. Esta marcada desproporción debe ser corregida, y para eso tiene que haber el esfuerzo conjunto de los educadores médicos, el gobierno a través del Departamento de Salud y la Comisión de Salud y la Asociación Médica para crear incentivos y así hacer atractiva la creación de

carreras en la prestación de servicios de cuidado primario a los recién graduados de medicina. Esto es preferible a imponer restricciones o controles a programas educativos en las distintas especialidades.

Recomendamos además que la Asociación Médica de Puerto Rico y en consonancia con lo aprobado por la Cámara de Delegados de la Asociación Médica Americana en junio de 1973, ayude a adoptar inmediatamente, darle publicidad y promover la meta de que por lo menos *50 por ciento de los egresados anualmente de escuelas de medicina prosigan en especialidades de cuido primario en un futuro inmediato.*

La necesidad por número y por tipo de médicos que se necesitan debe ser cuidadosamente y continuamente re-evaluada por la Asociación Médica de Puerto Rico a través de informes periódicos con miras a que esta información se haga accesible a los estudiantes de medicina y así se le ayude a escoger su especialidad o carrera futura. La implantación de estas recomendaciones no son fáciles, pero volvemos a señalar que es *imperativo* el que hay que organizar, promover y ayudar a la creación de un número de residencias en práctica de familia en todos nuestros centros docentes. Recomendamos además que la Asociación Médica de Puerto Rico dé su respaldo incondicional a los programas de la "American Board of Family Practice" para implementar en Puerto Rico este tipo de residencia.

Legislación federal reciente provee además incentivos económicos a instituciones que establezcan este tipo de programas, pero lo más que se necesita es *esfuerzo y dedicación* para hacer de esto una realidad.

7) *En cuanto a la recomendación Núm. 7 de la Comisión* que tiene que ver con el mecanismo de remuneración, este Comité se *opone* al método de *capitación*. Nuestra oposición se basa en las experiencias recogidas de planes similares en Inglaterra y Canadá, el sistema de *capitación* ha fracasado debido a que ha llevado al médico en práctica primaria a un exceso de trabajo con una remuneración totalmente inadecuada, lo que ha traído por consecuencia una pobre calidad en la prestación de servicios médicos. No debemos repetir esos errores.

8) *En cuanto a la recomendación Núm. 8 de la Comisión*, este Comité recomienda que la Asociación Médica de Puerto Rico se oponga a cualquier *tipo de control directo* donde se regule la *localización* donde el médico desea practicar medicina, según recomienda la Comisión.

Aunque teóricamente ésta sería una manera de traer una mejor distribución en los servicios médicos, este tipo de control es dictatorial y antidemocrático y viola crasamente los derechos civiles que tenemos los ciudadanos del Estado Libre Asociado y garantizados por nuestra Constitución, de trabajar en el sitio donde mejor le convenga. Estamos seguros, por consultas que hemos hecho a amigos abogados, que este tipo de control no se sostendría en corte bajo nuestras leyes actuales.

Finalmente recomendamos a la Cámara de Delegados que al recomendar la aceptación final de cualquier plan de servicios de salud para el pueblo de Puerto Rico se le dé especial consideración a los medios modernos (y ya en uso) de comunicación, tales como la televisión de circuito cerrado, telemetría y otros medios técnicos avanzados de comunicación que permitirían una mejor utilización de los servicios médicos y de salud en conjunto con una mejor distribución de estos servicios. Este tipo de proyecto, que aparentemente resulta alto en costo inicial, se está usando ya con gran éxito en muchos sitios del mundo y está probado ser de gran utilidad en nuestro país con el establecimiento del sistema de televisión cerrada y telemetría entre el Centro Sub-regional de Guayama y el Hospital de Distrito de Ponce. Debido a lo complejo y a lo extenso que es el problema de los recursos humanos recomendamos se continúe estudiando por un Comité debidamente constituido todos los aspectos de los servicios médicos en este campo con miras a producir recomendaciones positivas que ayuden a resolver definitivamente el problema de recursos humanos y que no caigan estas recomendaciones en el limbo de los sueños, como ha sucedido con la mayoría de las recomendaciones vertidas en los estudios citados al comienzo de este informe.

ADDENDUM FINAL

Por último, queremos hacer nuestra la preocupación expresada por el Dr. Carlos Girod, Decano de nuestra Escuela de Medicina, quien deponiendo recientemente ante un Comité del Senado expuso lo siguiente:

"Estimo que hay alrededor de 3,000 puertorriqueños estudiando medicina en Universidades en la República Dominicana, España y Méjico. Nuestra Escuela no está *preparada* para aceptarlos y nuestra profesión médica no está capacitada para absorverlos después que se gradúen. Si hacemos esto, vamos a terminar como Las Filipinas, que gradúan un vasto número de médicos cada año y como consecuencia tienen que abandonar

su país para poder ganarse la vida”.

¿Es esto lo que queremos para el futuro médico puertorriqueño? En nuestras manos está la solución.

El Dr. Martín A. Iguina Mora pidió a la Presidencia de la Cámara que solicite a la Junta Estatal de Salud el informe que ésta le entregara al Gobernador de Puerto Rico sobre la creación de una nueva escuela de Medicina en Puerto Rico.

INFORME COMITE TITULO II

Este Comité estaba integrado por los doctores Germán E. Malaret, Presidente, Alexis Fernández y Eduardo Medina.

A) Artículo 17

1) El párrafo 1 del Inciso A recomienda dos visitas de tipo ambulatorio por cada año a la oficina de un médico primario para todos los ciudadanos de Puerto Rico. Aunque ésta es una idea loable no es práctica. Sencillamente no hay suficientes médicos en Puerto Rico, ni primarios ni de otro tipo, para llevar a cabo esta recomendación.

2) En los párrafos II y III recomiendan múltiples visitas al hogar según sean necesarias tanto por el médico primario como por los especialistas. Esto no es práctico hoy en día aunque reconocemos que un número de visitas al hogar son necesarias en casos específicos como aquellos que están incapacitados y se le hace muy difícil ir a la oficina del médico. Son muy pocas las condiciones que se deben tratar en el hogar porque no pueden ir al hospital o a la oficina del médico. El tiempo que se pierde no justifica los beneficios que han de obtenerse, por lo que se recomienda que dentro lo posible los pacientes siempre vayan a la oficina del médico, al dispensario o al hospital para el tratamiento pertinente. En cuanto a los especialistas en particular, el tiempo perdido en transportación yendo a las casas de los pacientes se podría utilizar mucho mejor atendiendo aquellos pacientes graves que requieren la atención de un especialista en los hospitales o en los dispensarios.

3) El párrafo 14 limita los servicios de salud mental lo cual nos parece absurdo. Las enfermedades mentales son tan importantes como las enfermedades físicas y deben de tener igual cubierta que las demás. Igualmente hay limitaciones en los párrafos 15 y otros para el cuidado agudo de pacientes ya sean psiquiátricos o no y estas limitaciones no deben existir. Si se va a crear un seguro de salud universal debe cubrir todas las necesidades del paciente y no debe haber límites de esta naturaleza. Sí debe existir fiscalización adecuada para evi-

tar la sobreutilización.

4) El inciso B establece una serie de servicios para la mujer lo cual no hay porque separarlos del resto de los servicios médicos que se le han de ofrecer a todos los ciudadanos. El hecho de que un ciudadano sea mujer o que esté encinta no debe limitarla en absoluto en cuanto a los servicios que debe recibir según sean necesarios en el campo de la salud.

Artículo 18

1) Las exclusiones que existen en el Artículo 18 como la exclusión de servicios de trasplantes de órganos, de transfusiones de sangre, etc. son absurdas a la luz de la medicina de hoy. Es indudable que un seguro abarcador ha de cubrir todos los trasplantes de órganos que se requieran al igual que todas las transfusiones de sangre que sean necesarias por los pacientes. De acuerdo con la ley existente también hay que incluir los abortos ya que esto es un servicio médico igual que cualquier otro. De hecho, hay una ley federal específica que cubre trasplante de riñón y cuidado a los pacientes con problemas renales crónicos que por necesidad tendría que estar incluida bajo cualquier ley de seguro universal que se establezca en Puerto Rico. Exclusiones tales como para servicios cosméticos está bien que no las cubra un seguro universal.

2) El párrafo G de este Artículo determina que se ha de llevar a cabo auditoría médica en casos de estadía prolongada, pero no dice quién ha de llevar a cabo tal auditoría.

Artículo 19

1) Este Artículo limita lo que se puede reembolsar a un paciente que recibe servicios médicos fuera de Puerto Rico y en realidad está en conflicto con otros Títulos de este anteproyecto de ley, el cual elimina las compañías de seguros en cuanto a servicios médicos se refiere, con la excepción de servicios complementarios o suplementarios a la ley de seguro universal. Por lo tanto este Artículo es absurdo.

Comentarios Generales

Revisando todo el Título II es evidente que es un Título puramente político ya que la mayor parte de la gente lo que va a ver es que se ofrecen un sinnúmero de servicios sin límites al leer las primeras oraciones. Cuando se lee el título completo se da cuenta uno de las limitaciones marcadas que existen y que en realidad están en conflicto con la filosofía de un seguro médico universal.

INFORME ANTEPROYECTO PARA CREAR CORPORACION HOSPITALES

Este Comité estaba integrado también por los doctores Germán Malaret, Presidente, Alexis Fernández, Eduardo Medina y Caleb González.

“El Comité Ad Hoc se reunió el lunes 9 para discutir este anteproyecto. De esta reunión salieron los siguientes comentarios y observaciones:

1) Este proyecto es sumamente amplio y abarcador y básicamente autoriza al Gobierno de Puerto Rico a operar, construir, cerrar y/o expropiar todas las facilidades de salud de Puerto Rico. Las facilidades de salud se definen como todas las facilidades donde se preste cualquier tipo de servicio médico o cuasi-médico e incluye no sólo los hospitales, sino laboratorios, centros de diagnóstico, oficinas de médicos, oficinas dentales, etc., etc.

2) El proyecto también establece mecanismos para que un grupo o corporación o sociedad pueda arrendarle a esta Corporación facilidades de salud para dar servicios médicos. Sin embargo, las trabas aparecen ser tales que se le haría muy difícil a ningún grupo arrendar tales facilidades. Por esto queremos decir que las responsabilidades económicas que habría que asumir son tales que sería prácticamente imposible para nadie asumirlas.

3) En el Artículo V, inciso A, segundo párrafo, se establece que ningún miembro de la Junta de Directores de esta Corporación podrá ocupar otro cargo en el servicio público. Esto elimina todas aquellas personas que puedan tener trabajo a tarea parcial con el gobierno y no está claro si excluye también aquellas personas que puedan tener contratos profesionales con el gobierno aunque no sean empleados como tal. Esto tiene que aclararse. También se establece que la única manera de destituir a un miembro de la Junta de Directores es mediante una vista administrativa en la que se le formulan cargos ante el resto de los miembros de la Junta de Directores. No nos parece que esto sea saludable.

4) El Artículo XI, inciso B, define que la Corporación puede adquirir cualquier facilidad de salud que desee y en el inciso C del mismo Artículo se indica que la Corporación queda autorizada a entrar previa notificación a su dueño, en cualquier terreno, finca u otra propiedad privada con el fin de hacer mensuras, sondeos y otros estudios. No se especifica que hay que tener la autorización del dueño para que se lleven a cabo estos estudios, sino tan sólo una notificación previa. Obviamente esto debe ser anticonstitucional ya que es una violación de los derechos civiles y de la propiedad privada del individuo. El inciso D establece

que el gobierno puede expropiar forzosamente cualquier facilidad de salud o cualquier terreno que crea necesario. La amplitud de los derechos que tiene la Corporación establecida en este Artículo no tiene límites.

5) En el Artículo XX, inciso A, se establece que la Junta de Directores de la Corporación puede otorgar contratos de construcción en cualquier proyecto sin la celebración de subasta. Esto es una práctica muy indeseable que se presta para violaciones de ley y se presta para padrinazgo.

6) El Artículo XXI, inciso F, establece que cualquier persona, grupo o entidad que arriende una facilidad de salud de la cual es dueña la Corporación de Hospitales, vendrá obligado a nombrar como miembro de la Junta de Directores o Cuerpo Rector que maneje esa facilidad a uno o más representantes de la Corporación de Hospitales con un mínimo de uno por cada cinco o fracción de cinco de los miembros normales de la Junta. Esto nos parece una interferencia abusiva gubernamental en la libre práctica de la profesión.

7) El Artículo treinta y dos establece que la ley habrá de ser interpretada muy liberalmente por las Cortes, lo cual nos parece una interferencia con el proceso judicial. El Artículo treinta y tres determina que todas las facilidades de salud existentes en Puerto Rico son declaradas utilidades públicas lo cual nos parece injusto e impropio y, finalmente, en el Artículo treinta y cuatro se prohíbe el que una Corte expida un “Injunction”, lo cual nos parece que es un entrometimiento en los poderes judiciales del país.

Es evidente que este anteproyecto de ley le provee a la Corporación de Hospitales unos poderes increíbles sin límites de ninguna clase, lo cual nos parece inaceptable bajo una democracia.”

INFORME COMITE TITULO VIII - METODOS DE PAGO

Este Comité estaba integrado por los doctores Luis A. Viñas Sorbá, Presidente, Raúl A. Yordán, Enrique Delgado Plasencia, José Martí y el señor Herminio Fernández Torrecillas.

“Como asumimos que varios de los presentes no han tenido la ocasión de leer el informe de la Comisión que preside el señor Aponte en su totalidad, pasaremos primero a darles un resumen de la Sección VIII, a la vez que la traducimos al Español libremente:

La Sección VIII, Métodos de Pago, está dividida en dos que son: Pagos al Médico y Pago a las Instituciones.

PAGO AL MEDICO: El Informe de la Comisión comienza con una discusión de la forma de pago utilizada en la actualidad en Puerto Rico, o sea, el pago por

servicios prestados, mejor conocida como "fee for service"; la discusión está enfocada en su totalidad a una crítica abierta del método actual.

Se alega que el sistema de "fee for service" estimula la sobreutilización de los servicios médicos ya que al médico le motiva el interés económico. Se cita la experiencia de Baltimore, en el 1963 cuando se cambió un sistema de "capitation" por el de "fee for service", en el cual el promedio de visitas por persona por año subió de 2.6 a 3.2; esta experiencia fue con los médicos generalistas.

Dice la Comisión que en medicina el mucho servicio no necesariamente es el mejor y aún puede ser perjudicial, y citan como ejemplo los casos de exceso de Rayos X o de procedimientos quirúrgicos. También dicen que hay mucha evidencia de que el número de procedimientos quirúrgicos está relacionado directamente con la habilidad de pagar del paciente. Esto en el sistema "fee for service". Alegan que "underdoctoring" es preferible que "overdoctoring" por un número de razones. Continúa el informe diciendo que la creencia de que a menos que al médico se le pague directamente por cada servicio no da el servicio adecuado, refleja una actitud cínica del médico, sus motivaciones y sus preocupaciones. Alegan que esto último es "often voiced by representatives of organized medicine".

Bajo un sistema regionalizado, tiene que existir un flujo de pacientes referidos en ambas direcciones y el sistema "fee for service" puede convertirse en un gran obstáculo hacia esta meta pues por lo general este sistema tiende a desanimar los referidos ya que el médico prefiere quedarse con el paciente y no referirlo. También alegan que los procedimientos mejor pagados son preferidos y se sobreutilizan las facilidades hospitalarias. Al existir el problema de pacientes que no pueden pagar, el médico tiene que utilizar dos "standards" de cuidado médico: Uno al que paga bien y otro para el que es gratis.

Se cita los inconvenientes del Plan Médico Universal en su día si se usasen el sistema "fee for service"; según ellos alegan, traería unos gastos de administración altísimos para controlarlo y para ello dan el ejemplo de Blue Shield, el cual utiliza un 8 por ciento de gastos administrativos; también los costos de "fee for service" son impredecibles.

La Comisión es de opinión que el pago a los médicos debe mejorar y según ellos se deben perseguir los siguientes objetivos: (bajo el Plan Universal)

- 1) Debe proveer al médico seguridad económica para que pueda dedicar todo su tiempo, esfuerzo y conocimientos a la práctica de la medicina sin

preocupaciones económicas.

- 2) Debe proveer incentivos a los médicos.
- 3) El sistema de pago debe estimular los referidos.
- 4) Conocimientos y habilidades sobresalientes deben ser recompensados estimulando al médico a mantener éstos a un nivel de competencia.
- 5) Debe ser suficiente para atraer y retener al personal requerido en el campo de la medicina.
- 6) Debe proveer el incentivo necesario para distribuir adecuadamente a los médicos, tanto geográficamente como de clases sociales, o sea, donde fuese necesario.
- 7) Debe ser financiera y administrativamente posible para la organización que pague al médico.

Después de esta introducción la Comisión pasa a describir el método de pago que se usará.

Toda persona tendrá un MEDICO PRIMARIO y se recomienda que se les pague a base de CAPITACION.

Bajo el sistema el médico primario tendrá un límite de 2,500 pacientes. Aquellos médicos que trabajen en práctica de grupo podrán tener un máximo de 3,000 pacientes.

Bajo el sistema de capitación se tiende a estimular el referido ya que el médico no tiene incentivos económicos.

AL ESPECIALISTA se recomienda que se le pague a base de SALARIOS el cual dependerá de experiencia, preparación, etc.

El pago tendrá TRES COMPONENTES:

Primero: Una cantidad básica a pagarse a todos los médicos en práctica a tiempo completo. Esta compensación debe responder a la necesidad de seguridad económica de los participantes.

Segundo: Este componente variará de acuerdo con ciertas características individuales del médico, tales como cualificación, disponibilidad al servicio, educación continuada, opinión de los colegas. Establecerán un cuerpo central profesional que establecerá los criterios que se tendrán en consideración y un Comité profesional a nivel regional distribuirá los fondos.

Tercero: Este componente será entregado a la región en su totalidad y las cantidades a distribuirse irán orientadas hacia objetivos específicos del plan universal y no hacia la habilidad del médico o su funcionamiento. Ejemplo: la Comisión puede establecer ciertas metas a una región y si los médicos la consiguen se les reparte el 100 por ciento de la cantidad, sino sólo el por ciento conseguido de la meta. Este llamado "Pool" también puede utilizarse para hacer al médico consciente de que tiene que estar al día en sus conocimientos, la igual que para la distribución por regiones de los especialistas.

Ejemplo: Dos regiones iguales se les asigna el "Pool" igual; la que tenga menos especialistas le toca más per cápita, la que tenga más le toca menos, por lo tanto, estimularía la emigración voluntaria.

Terminan la Sección del pago a los médicos diciendo que el sistema tiene varias ventajas y citan dos:

- 1) "There are no incentives to give superfluous or unnecessary services".
- 2) "The costs are predictable in advance".

Como último, dicen que no importa el sistema que se adopte el principio envuelto en el "Pool" debe usarse, ya que el mismo da a una región con pocos médicos un mayor poder de regateo para conseguirlos.

PAGO A LAS INSTITUCIONES:

Empieza diciendo que el sistema de costos razonables ha hecho poco para estimular la eficiencia y la conciencia de los gastos de una institución y tampoco estimula la eficiencia.

Bajo el Plan Universal se recomienda que a las instituciones se les pague a base de presupuesto prospectivo global. Bajo este sistema a la institución se le asigna una cantidad específica de dinero calculado a base de la experiencia pasada, etc. Con este sistema deben ponerse más conscientes de los gastos y más eficientes. Este sistema es negociado con la institución.

Pasamos ahora a los comentarios y opinión del Comité sobre el informe de la Comisión:

El informe de la Comisión de Salud en lo relacionado a Métodos de Pago a los Médicos expone tan sólo un lado de la moneda. Se dedica a criticar el sistema de pago que se utiliza en la actualidad en Puerto Rico y en segundo término ofende gratuitamente a la clase médica del país. Estos señores no aceptan nada bueno del actual sistema de pago por servicios prestados. Basan sus argumentos en estudios y cifras de los Estados Unidos, las cuales no necesariamente tienen que ser aplicables a Puerto Rico.

Con relación al sistema de pago a los *médicos primarios* propuestos por ellos, CAPITACION, su principal argumento a favor es "Capitation tends to promote referrals, as the physician has no economic incentives...". Estamos de acuerdo completamente con la Comisión. Un médico recargado de trabajo sin ninguna clase de incentivos será estimulado a referir innecesariamente muchos casos que posiblemente él podría manejar. En ninguna parte de todo el informe de la Comisión existe provisión de cómo se ha planificado evitar que se sobrenticen los servicios de salud por los usuarios a nivel del médico primario; tampoco habla de horarios de trabajo. Lo que sí explica muy claramente es que FODAS las visitas al hogar según lo requieran los

usuarios.

Aparentemente, como está planificado el servicio, el médico primario se agotará y sin lugar a dudas bajará su rendimiento y la calidad de los servicios.

En cuanto a los *médicos especialistas*, a éstos se les pagará a base de un salario el cual tendrá tres componentes. Este salario no será tan justo como pretende la Comisión hacer creer.

No se ciñe a la verdad al decir que "Los especialistas sólo ven sus pacientes intermitentemente cuando enferman seriamente"; la buena medicina requiere que el especialista vea sus pacientes más a menudo. En la actualidad, es de todos sabido, que el paciente se ve cuantas veces sea necesario, si está indicado; en el sistema propuesto tiene que ser referido.

Tenemos que señalar que al hablar la Comisión de tres componentes que formarán el pago no especifican la proporción que cada componente tendrá en el total; podrían no ser iguales. Tenemos que asumir que la parte que corresponde a la tercera o "Pool" debe ser importante, pues claramente dicen que la importancia del "Pool" es que le da poder de regateo a las regiones además de que "The actual remuneration amounts would reward specific objectives of the health system rather than the individual practitioner's performance or attribute".

El componente de "Pool" es un arma que tendrá la Comisión para obligar al médico especialista a practicar la medicina como ellos deseen y donde ellos deseen.

Tenemos que concluir que el método de pago a los médicos como lo presenta la Comisión de Salud Universal no es aceptable a la clase médica. No creemos que haya que eliminar el sistema actual para crear un nuevo sistema, obviamente socialista.

En noviembre de 1965 la Cámara de Delegados de la Asociación Médica Americana estableció que es antiético cobrar honorarios excesivos. El honorario médico debe ser razonable y de acuerdo con la habilidad del paciente para pagar.

Creemos y opinamos que el sistema actual necesita modificaciones para adaptarse a los cambios que se avencinan; estos son CONTROLAR LOS HONORARIOS EXCESIVOS manteniéndolos justos y razonables sin perder de vista un control de calidad efectivo. En esto nuestra Asociación Médica debe tomar la iniciativa y mantenerse a la vanguardia.

En cuanto al método de pago a las instituciones hospitalarias se debe insistir en un "per diem" negociado y sujeto a revisión anualmente. De la forma que está redactado, las instituciones hospitalarias se enfrentarían al mismo problema que han tenido con Medicare y con Cruz Azul en relación con el recobro de gastos

y un rédito razonable de beneficios por el capital aportado.

Como hasta este momento se desconoce el Reglamento por el cual se ha de regir la Corporación de Seguros de Salud para aceptar o no los gastos de las instituciones que prestan los servicios, se hace en este momento difícil hacer recomendaciones específicas al respecto.

INFORME COMITE DROGAS Y MEDICAMENTOS

Este Comité estaba integrado por los doctores Rafael Berrios Martínez, Presidente, Alfonso Zerbi y la Lcda. Jeannette Alicea.

"En el estudio del propuesto Plan Universal, en lo que compete al Título VII, consiste de una reglamentación estricta de drogas, medicamentos y recetas, donde se establece el redactar un formulario en el cual la Junta de Farmacología tiene todo el poder de cambiar, aceptar o eliminar drogas al extremo de poder cambiar cualquier droga sin la previa autorización del médico que prescribe. También reglamenta a la farmacia de Puerto Rico en una forma parecida, en la que creemos que la mayoría de las farmacias pequeñas no podrán subsistir.

En resumen, creemos que:

- 1) El formato y el formulario le quita toda la espontaneidad y el arte de prescribir medicina por un médico;
- 2) Creemos impráctica la forma de contratación de la farmacia y creemos que esto debe ser a través del Colegio de Farmacéuticos o la Asociación de Dueños de Farmacia. Los costos que pagará la Comisión a la farmacia de participantes prohíbe el uso de por ciento, lo que no le daría margen a una farmacia para sobrevivir.
- 3) También recomendamos que el Colegio de Farmacéuticos o la Asociación de Dueños de Farmacia tenga la potestad de negociar este renglón.

Además, la Comisión pretende irse por encima de la Agencia Federal de Alimentos y Drogas, teniendo el poder de aceptar o rechazar drogas que ya han sido aceptadas por esta Agencia.

Nosotros recomendamos que en la preparación del formulario tenga una voz decisiva el Colegio de Farmacéuticos de Puerto Rico."

INFORME COMITE TITULO VII

Este Comité estaba integrado por los doctores Juan F. Jiménez, Presidente, Raúl Franceschi, Rafael Porrata y el Sr. Adolfo Krans.

A) Título VII - Excluye a todas las compañías de seguros comerciales, asociaciones, corporaciones, uniones obreras o personas con excepción de la ACAA y el Fondo del Seguro del Estado a negociar u ofrecer seguros de hospitalización y médico-quirúrgicos o cualquier tipo de servicio que esté cubierto por el Título II del Seguro Universal.

B) El Comité considera que esta decisión está reñida con la filosofía y prácticas de una sociedad libre y democrática que permite a todo ciudadano poder escoger libremente entre diferentes fuentes o alternativas que provean estos seguros y servicios.

C) Considera que la Comisión debe limitarse a establecer los requisitos mínimos de cubierta que debe ofrecerse en el Seguro de Salud Universal y permitir a cualquier asociación que esté debidamente certificada por el Comisionado de Seguros a ofrecer estos servicios y cubiertas al público.

Considera que es beneficioso la competencia para traer una mejor eficiencia y abaratar los servicios.

D) Recomendamos a la Cámara de Delegados que se contrate una agencia de publicidad que desarrolle una campaña para llevar a la población las razones y justificaciones de la Asociación Médica de Puerto Rico por las cuales ésta considera que el Proyecto de Seguro de Salud Universal no es beneficioso ni resuelve efectivamente los problemas de salud del pueblo de Puerto Rico."

Todos los miembros de la Cámara de Delegados presentes en la reunión estuvieron de acuerdo en que estos informes de la Comisión eran totalmente inaceptables, y se aprobó la siguiente Resolución:

"Como desconocemos el proyecto oficial de la Comisión Sobre Seguro de Salud Universal, limitaremos nuestra opinión o declaraciones al proyecto conocido por nosotros y que se nos ha dicho fue presentado el 30 de junio de 1974.

La Cámara de Delegados recomienda:

- 1) Hacer un resumen sobre todo lo discutido en el día de hoy y que se circule a todos los médicos de Puerto Rico.
- 2) Que el Proyecto de la Comisión Sobre Seguro de Salud Universal conocido por nosotros es inaceptable para ser utilizado como base del Seguro de Salud Universal ya que resultaría en un deterioro de la calidad del servicio médico; exige una destrucción del sistema actual de servicios de salud y crearía una intromisión absoluta e innecesaria en todos los Derechos Constitucionales de todos los puertorriqueños.
- 3) Que la Junta de Directores desarrolle un programa de divulgación a todo el pueblo de Puerto Rico sobre todo lo discutido en el día de hoy.

La Cámara aprobó además solicitar de toda la matrícula una cuota por este año de \$100 para gastos de estudio del Seguro de Salud Universal.

No habiendo ningún otro asunto que tratar se dio por terminada la reunión a las 7:00 P. M.

Judith Román, MD
Secretaria

POSTOPERATIVE MONITORING FOR THE CRITICALLY ILL PATIENT

With recent advances in surgical and anesthetic techniques operations are now being successfully carried out on patients whose preoperative conditions would have precluded surgery several years ago. It is rare that surgery brings about an immediate transformation in these patients from a critical to non-critical status. However, with meticulous and intelligent postoperative management, many will survive. The purpose of this communication is to call attention to recent developments in the monitoring and treatment of critically ill patients during the postoperative period.

The surgical intensive care unit (ICU) has become a standard part of surgical bed space in most large hospitals. Of importance in basic design of an ICU is provision for visual contact of the patients by ICU personnel at all times. Some degree of patient privacy may be obtained by curtains and sliding glass doors, but a central monitoring console, generally located at the nurses' station, will provide indirect contact when direct observation is not possible. Some intensive care areas are equipped with closed circuit television systems for visual monitoring. Of far more importance than the make up of the physical plant, however, is the staffing of the ICU with competent personnel in numbers adequate to meet the demand. The ICU staff, whether nurses or paramedical personnel, should be selected on the basis of their motivation, skill and unalterable concern for the patient's welfare. It is very easy to lose sight of the fact that attached to the end of all the wires and tubes is a living, feeling human being who is often times much more aware of his surroundings than one thinks.

As was true of World War II and the Korean conflict, the Vietnam war has provided a wealth of new knowledge in critical care medicine. The value of a conveniently located laboratory for the rapid, accurate and repetitive determinations of hematocrit, arterial pH and gases, lactates and serum electrolytes in the care of the critically ill was well known. These indices proved to be of value both therapeutically and prognostically. For example, the inability of a patient to maintain a normal pH and to lower an elevated blood lactate level after adequate volume replacement following hemorrhagic shock was found to be an extremely poor prognostic sign. Particulate matter in transfused blood has been thought by many to be a possible etiologic factor in the development of post operative (post-traumatic) pulmonary insufficiency syndrome (shock lung). Multiple, rapidly administered transfusions of cold, bank blood can lower body temperature to critical levels, especially in children and small adults. Consequently, blood warmers and filters have been employed in situations calling for multiple transfusions and have proved to be of significant value in preventing these complications.

Many patients require respiratory support during the postoperative period. In most, these requirements are of short duration and, for them, leaving an endotracheal tube in place for several hours or days will suffice. Others, however, require prolonged support and will need a tracheostomy. Reports of tracheal strictures and erosions following use of low volume, high pressure tracheostomy tube cuffs have made use of high volume, low pressure cuffs desirable. Many respirators are available for various clinical situations. It appears that the most versatile ones are volume cycled with controls for inspired oxygen concentration and equipped with a sighing mechanism and an automatic cut off or alarm system should airway pressure exceed a desired level. Also of importance is a provision

for maintenance for positive end-expiratory pressure (CPPB) should this be needed. Volumes, rates and inspired gas concentrations are regulated according to results of frequently determined arterial pH and blood gases. Inspired oxygen concentrations should be kept below 60 percent if possible, because of the danger of damage to the lung by higher concentrations. A plastic catheter inserted into the radial artery can serve as a source for arterial blood in addition to being a means of directly measuring arterial pressure. A very recent innovation in respiratory care has been the use of an oxygen sensing electrode placed in the patient's upper airway to continuously record inspired and expired oxygen concentration. Also, recently developed is an oxygen sensing electrode, constructed in the form of an intraarterial catheter for the continuous measurement of arterial oxygen. The swift, round-the-clock availability of a portable x-ray unit and a rapid film developer is an asset to any critical care area.

Many of these seriously ill patients have some degree of embarrassment of their cardiovascular system, and require more than conventional means of evaluation of their circulatory status. The frequent recording of pulse and blood pressure is mandatory. Cuff blood pressures are often inaccurate and sometimes unobtainable in persons with extreme circulatory embarrassment, and the need for an intra-arterial needle, as described above, and direct measurement of arterial pressure exists. The central venous pressure (CVP) as an index of cardiac function and central blood volume has received much attention recently. It is a valuable index, but the CVP alone should never be used as a guide to fluid therapy and blood replacement. The central venous pool is a large volume system and dangerous volume shifts may occur with small changes in CVP. Of particular importance is the danger of using the CVP as a guide to the administration of large volumes of crystalloids and balanced salt solutions. These substances do not remain in the vascular system very long and one may easily precipitate pulmonary edema with little or no change in the CVP. The CVP is of much more value in directing the administration of blood and plasma volume expanders. A centrally placed venous catheter is an excellent route for the infusion of vasopressors, antiarrhythmics, cardiotonics, and other potent drugs. It is extremely important that these agents be given at a constant rate and not administered as large bolus injections, because serious consequences may result. A small infusion pump has proved extremely valuable for this purpose.

The recent introduction of flow guided catheters has enabled the rapid passage of catheters into the pulmonary artery without fluoroscopic control. This makes possible the measurement of pulmonary artery diastolic pressure a much more accurate reflection of left ventricular filling pressure than the CVP. Central venous PO_2 as measured from pulmonary arterial blood has been used as an index of adequacy of peripheral perfusion. An even more recent innovation utilizing the flow guided catheters has been the use of a multi-lumen catheter equipped with a thermistor at its tip to measure cardiac output by the thermal dilution method. Using this method cardiac outputs may be determined easily, rapidly, and repetitively by injecting several milliliters of saline. An indirect, but equally valuable method of determining the adequacy of peripheral perfusion is the recently developed muscle pH electrode. A small pH electrode is implanted on the surface of a muscle, usually in the thigh, and continuous recording of the pH reflects the adequacy of the peripheral circulation. This method has been used quite effectively in patients of the pediatric age group.

Reports of postoperative venous thrombosis and pulmonary embolism continue to appear in the literature in spite of policies of early ambulation, routine anticoagulation and use of anti-embolic stockings in high risk patient populations. Early detection of venous thrombosis by impedance plethysmography or by scanning following administration of radioisotope labelled antifibrinogen has enabled prompt initiation of proper therapy and the possibility of prevention of mortality and morbidity from thromboembolism. Just as thrombosis can be a problem, some patients in critical care situations may develop bleeding disorders. The presence of a skillful coagulation la-

boratory and the availability of specific coagulation factors aids substantially in diagnosis of clotting disorders and providing optimal care.

Because of the many recent advances in patient monitoring care of the critically ill, which involves use of numerous electrical devices, there have been many reports of fatal and near fatal accidents directly related to improperly wired or grounded electrical equipment. Before any electrical device is used in a patient area, it should be thoroughly checked by a qualified electrician for any possible source of current leakage. Frequent rechecks of all equipment in ICU areas should be routine. An alarm system which is activated by any improperly grounded piece of equipment is available and in use in many ICU areas.

All of the information gathered by the above mentioned methods is of little value unless it can be recorded and displayed in a manner that is useful to those directly responsible for making therapeutic decisions. All too often vital signs are recorded on one sheet, intake and outpatient on another, nurses' notes on another, medication on another, and doctors' orders on still another. It appears logical that a daily, chronologic record of all these would greatly facilitate care. In this way, events in the patient's course could be rapidly and accurately related to interventions, or lack of interventions, in his treatment. In the case of the critically ill, it is also desirable to have all orders rewritten each day in order to minimize the possibility of medication errors.

Since the number of critically ill patients undergoing surgery is increasing, the responsibility for their postoperative management has been placed on the surgical team. Postoperative care, in principle is no different than intraoperative care, its success depends upon meticulous attention to fine detail. The recently developed aids in monitoring physiologic data and newer therapeutic methods have substantially contributed to the ability of the critical care team to provide these patients with optimal care.

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Instrucciones para los Autores

El Boletín acepta para su publicación artículos relativos a medicina y cirugía y las ciencias afines. Igualmente acepta artículos especiales y correspondencia que pudiera ser de interés general para la profesión médica.

El artículo, si se aceptara, será con la condición de que se publicará únicamente en esta revista.

Para facilitar la labor de revisión de la Junta Editora y la del impresor, se requiere de los autores que sigan las siguientes instrucciones:

Manuscrito: El manuscrito completo, incluyendo las leyendas y referencias deberán estar escritos a maquinilla a doble espacio y por un solo lado de cada página, en duplicado y con amplio margen. En página separada deberá incluirse lo siguiente: título, nombre del autor (es) y su grado (ej: MD, FACP), ciudad donde se hizo el trabajo, el hospital o institución académica, patrocinadores del estudio, y si un artículo ha sido leído en alguna reunión o congreso, así debe hacerse constar como una nota al calce.

El manuscrito debe comenzar con una breve introducción en la cual se especifique el propósito del mismo. Las secciones principales (como por ejemplo: materiales y métodos) deben identificarse como un encabezamiento al centro y en letras mayúsculas.

Artículos referentes a resultados de estudios clínicos o investigaciones de laboratorio deben organizarse bajo los siguientes encabezamientos: Introducción, Materiales y Métodos, Resultados, Discusión, Resumen (en español e inglés), Reconocimiento y Referencias.

Artículos referentes a estudios de casos aislados deben organizarse en la siguiente forma: Introducción, Materiales y Métodos si es aplicable, Observaciones del Caso, Discusión, Resumen (en español e inglés), Reconocimientos y Referencias.

Nomenclatura: Deben usarse los nombres genéricos de los medicamentos. Podrán usarse también los nombres comerciales, entre paréntesis, si así se desea. Se usará con preferencia el sistema métrico de pesos y medidas.

Tablas: Las tablas deben aparecer en hojas separadas. Estas deben incluir el título y el número de la tabla (romano). Los símbolos de unidades deben limitarse al encabezamiento de las columnas. Se deben omitir líneas verticales y horizontales en la tabla.

Figuras: Las fotografías y microfotografías se someterán como copias en papel de lustre, sin montar. En el reverso de la figura debe aparecer el número de la figura (arábigo) y el autor y debe indicarse la parte superior.

Referencias: Las referencias deben ser numeradas sucesivamente de acuerdo con su aparición en el texto. Los números deben aparecer en paréntesis al nivel de la línea u oración. Al final de cada artículo las referencias deben aparecer en el orden numérico en que se citan en el texto. Estas deben seguir el estilo o patrón del "Index Medicus", el cual se describe a continuación:

Para artículos de Revista

Apellido (s), e iniciales del nombre del autor (es), nombre de la revista, volumen, primera página y año.

Koppisch E: Bol Asoc Med P Rico 46: 505, 1954.

Para citación de Libros

Apellido (s), e iniciales del autor (es), título, edición, casa editora, ciudad, año y página.

Wintrobe MM: Clinical Hematology, 3rd Ed Lea and Febiger, Philadelphia 1952 p 67.

Más de tres autores añadir: et al.

Deben usarse solamente las abreviaturas indicadas en el "Cumulative Index Medicus" que publica la Asociación Médica Americana.

Como guía de referencia para preparar su artículo puede usar la publicación Advice to Authors que publica la Scientific Publications Division, American Medical Association, 535 N Dearborn Street, Chicago, Illinois, 60610.

Instructions to Authors

The Boletín will accept for publication contributions relating to the various areas of medicine, surgery and allied medical sciences. Special articles and correspondence on subjects of general interest to physicians will also be accepted. All material is accepted with the understanding that it is to be published solely in this journal.

In order to facilitate review of the article by the Editorial Board and the work of the printer, the authors must conform with the following instructions:

Manuscripts: The entire manuscript, including legends and references should be typewritten double spaced in duplicate with ample margins. A separate title page should include the following: title, authors and their degrees (e. g. MD, FACP), city where the work was done, hospital or academic institutions,

acknowledgment of financial sponsors, and if the paper has been presented at a meeting the place and date should be given.

The manuscript should start with a brief introductory paragraph or paragraphs which should state its purpose. The main sections (for example, Materials and Methods) should be identified by center headings in capital letters.

Articles reporting the results of clinical studies or laboratory investigation should be organized under the following headings: Introduction, Material and Methods, Results if indicated, Discussion, Summary in English and Spanish, Acknowledgments if any, and References.

Nomenclature: Generic names of drugs should be used; trade names may also be given in parenthesis, if desired. Metric units of measurements should be used preferentially.

Tables: These should be typed on separate sheets with the title and table number (Roman) centered. Symbol for units should be confined to the column headings. Vertical and horizontal lines should be omitted.

Figures: Photographs and photomicrographs should be submitted as glossy prints, unmounted. They should be labeled in the back with the name of the authors and figure number (Arabic) and the top should be indicated. Legends to the figures should

be typed on a separate sheet.

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For journal articles: Surname and initials of author (s), name of journal, volume, first page and year.

Koppisch E: Bol Asoc Med P Rico 46: 505, 1954.

For Books: Surname and initials of author (s), title, edition, publishing house, City, year and page.

Wintrobe MM: Clinical Hematology, 3rd Ed Lea and Febiger, Philadelphia 1952 p 67.

More than three authors add: et al.

Abbreviations will conform to those used in the Cumulative Index Medicus, published by the American Medical Association.

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Healing nicely, but it still **HURTS**

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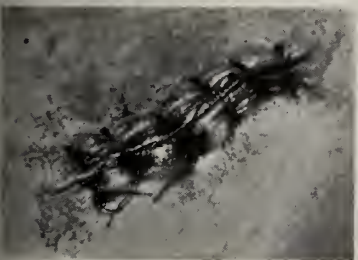
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When parenteral analgesia is no longer required, Empirin Compound with Codeine usually provides the relief needed.

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Empirin Compound with Codeine is effective for visceral as well as soft tissue pain—provides an antitussive bonus in addition to its prompt, predictable analgesia.

 **prescribing convenience:** up to 5 refills in 6 months, at your discretion (unless restricted by state law); by telephone order in many states.

Empirin Compound with Codeine **No. 3**, codeine phosphate* 32.4 mg. (gr. 1/2); **No. 4**, codeine phosphate* 64.8 mg. (gr. 1). *Warning—may be habit-forming. Each tablet also contains: aspirin gr. 3 1/2, phenacetin gr. 2 1/2, caffeine gr. 1/2.



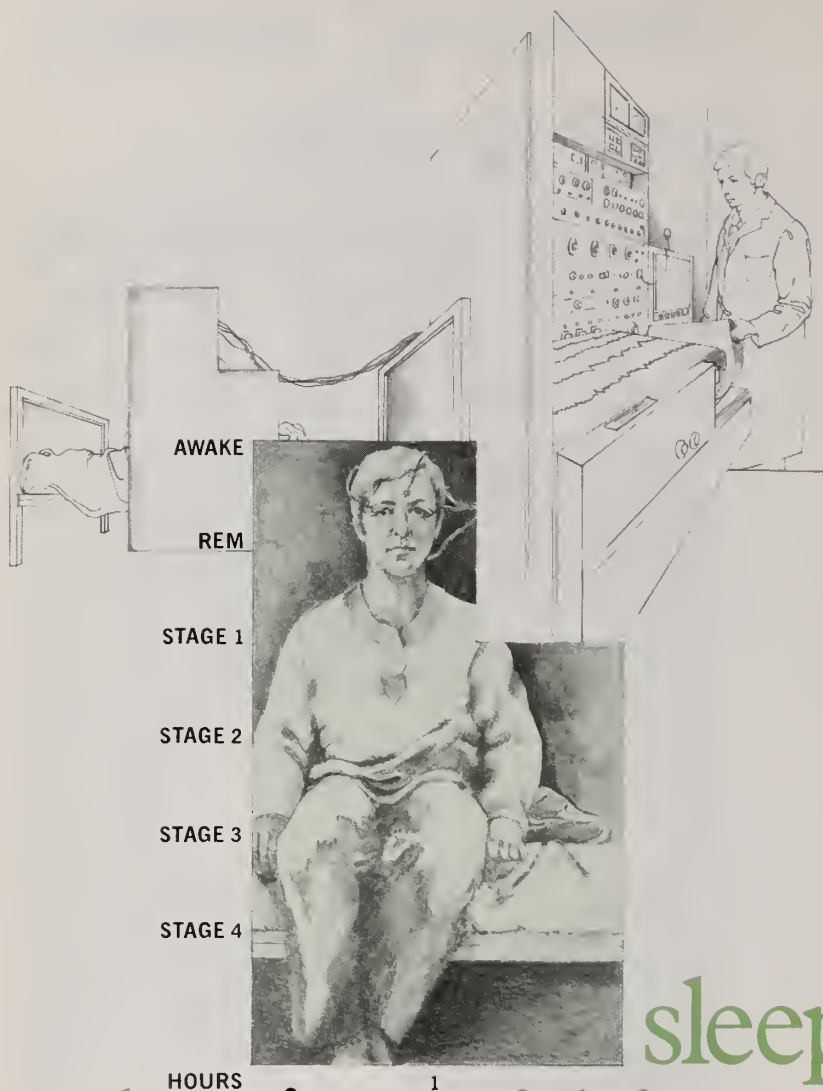
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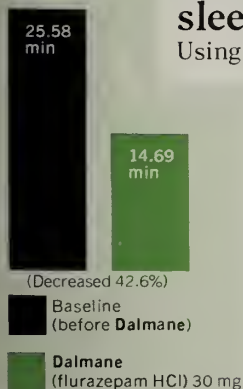


begins within
17 minutes, on average ...
an initial benefit of

Dalmane[®]
(flurazepam HCl) proved by a
22-night clinical study of insomnia patients
in the sleep research laboratory and at home¹

Three insomnia patients selected for difficulty falling asleep were administered Dalmane (flurazepam HCl) 30 mg for 14 consecutive nights. Placebo was given for four nights prior to and four nights after Dalmane. Physiologic tracings on Dalmane nights 1-3 showed sleep induction time averaged 13.90 minutes; on Dalmane nights 12-14, 18.80 minutes. Combined average for the 6 monitored drug nights was 16.35 minutes.¹

Average Time Required
to Fall Asleep (4 Studies,
16 Subjects²⁻⁵)



confirmed by clinical studies in four geographically separated sleep research laboratories²⁻⁵

Using a 14-night protocol involving eight insomniac and eight normal subjects, four studies confirmed the sleep-inducing effectiveness of Dalmane (flurazepam HCl) and the reproducibility of this response. On average, one 30-mg capsule induced sleep within 17 minutes. In all these studies, Dalmane induced sleep rapidly, reduced nighttime awakenings, and provided 7 to 8 hours of sleep without repeating dosage.²⁻⁵

Dalmane (flurazepam HCl) induces and maintains sleep, with relative safety

Dalmane is generally well tolerated; morning "hang-over" has been relatively infrequent. While dizziness, drowsiness, lightheadedness and the like have been noted most often, particularly in the elderly and debilitated, physicians should be aware of the possibility of more serious reactions, as noted below.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES: 1. Kales A, et al: *Arch Gen Psychiatry* 23:226-232, Sep 1970

2. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971

3. Frost JD Jr: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

4. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

5. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

when restful sleep
is indicated

Dalmane[®]

(flurazepam HCl)

One 30-mg capsule h.s. — usual adult dosage
(15 mg may suffice in some patients).

One 15-mg capsule h.s. — initial dosage for elderly or debilitated patients.

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- sustains sleep 7 to 8 hours, on average, without repeating dosage



ROCHE LABORATORIES
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Before prescribing, see complete prescribing information in SK&F literature or PDR. The following is a brief summary.

Indications: Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. Also, mild to moderate hypertension.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities.

Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Anti-hypertensive effects may be enhanced in post-sympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

Supplied: Bottles and Single Unit Packages of 100 capsules.

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Carolina, P.R. 00630
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KEEP THE HYPERTENSIVE PATIENT ON THERAPY KEEP THERAPY SIMPLE WITH **DYAZIDE**[®]

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Each capsule contains 50 mg. of Dyrenium[®] (brand of triamterene) and 25 mg. of hydrochlorothiazide.

No potassium supplements

No special K⁺ rich diets

Just 'Dyazide' once daily or twice daily



Studies have demonstrated that two prime reasons patients drop out of hypertensive therapy are: (1) the patient failed to understand directions, and (2) the regimen was overly complicated.* Dosage is simple with 'Dyazide', easily understood, once or twice daily, depending on response. There's no need to complicate the regimen with potassium supplements or unwieldy potassium-rich diets.

*E.D. Freis: The Modern Management of Hypertension, V.A. Information Bulletin, 11-35.

TO KEEP BLOOD PRESSURE DOWN AND KEEP POTASSIUM LEVELS UP

We're not against all her *E. coli*...

only the *E. coli* in her
urinary tract



Macrochantin (nitrofurantoin macrocrystals) is exceptionally effective against *E. coli*. But it confines its antibacterial action to the urinary tract. It is indicated for the treatment of cystitis,* pyelitis* and pyelonephritis*...nothing else.

Macrochantin is not indicated for therapy of any systemic infection. *And it does not suppress normal bac-*

**Basic in cystitis*, pyelitis*,
pyelonephritis***

The one-tract action of

Macrochantin® Capsules
(nitrofurantoin macrocrystals) 50mg./100mg.

Indications: Macrochantin (nitrofurantoin macrocrystals) is indicated for the treatment of pyelonephritis, pyelitis and cystitis due to *E. coli*, enterococci, *Staph. aureus* or a small percentage of strains of *Pseudomonas*, when demonstrated to be susceptible by in vitro susceptibility testing. Also for treatment of such infections when due to some susceptible strains of *Klebsiella-Aerobacter* and *Proteus*. It is not indicated for treatment of associated renal cortical or perinephric abscesses, systemic infections or prostatitis, or in any genitourinary tract infections other than pyelonephritis, pyelitis and cystitis.

Contraindications: Anuria, oliguria or extensive impairment of renal function is a contraindication. The drug is contraindicated for infants under one month and in pregnant patients at term. The drug should not be administered to persons who have shown hypersensitivity to nitrofurantoin.

Warnings: Macrochantin may cause hemolytic anemia of the primaquine sensitivity type, apparently linked to a glucose-6-phosphate dehydrogenase deficiency. This deficiency is found in 10 per cent of Negroes and in a small percentage of ethnic groups of Mediterranean

and Near-Eastern origin. Such patients should be observed closely while receiving nitrofurantoin. Discontinue the drug at any sign of hemolysis. Hemolysis ceases on withdrawal. Superinfections may occur, most commonly due to *Pseudomonas*.

Usage in pregnancy: THE SAFETY OF NITROFURANTOIN DURING PREGNANCY AND LACTATION HAS NOT BEEN ESTABLISHED. IT SHOULD NOT BE USED IN WOMEN OF CHILDBEARING POTENTIAL UNLESS THE EXPECTED BENEFITS OUTWEIGH THE POSSIBLE HAZARDS.

Precautions: Peripheral neuropathy may occur. A fatality has been reported. Predisposing conditions such as renal impairment, anemia, diabetes, electrolyte imbalance, vitamin B deficiency and debilitating disease may enhance such occurrence.

Adverse reactions: Nausea, emesis and diarrhea may occur; reduction in dosage may alleviate these symptoms. Sensitization appearing as cutaneous eruptions or pruritus has occurred. Hypersensitivity reactions resulting in nonfatal anaphylaxis, angioedema, pulmonary infiltration with pleural effusion and eosinophilia have been reported. Other possible

terial flora elsewhere in the body. (As with other antibacterials, superinfections may occur, but these are limited to the urinary tract. *Pseudomonas* is the organism most commonly implicated.)

Macrochantin works against a majority of urinary tract pathogens, including some strains of *Proteus* and *Klebsiella-Aerobacter*; however, only a small percentage of strains of *Pseudomonas* are susceptible.

*Due to susceptible organisms.

reactions are chills, fever, jaundice, asthmatic symptoms and hypotension. Occasionally headache, dizziness, nystagmus, vertigo, drowsiness, malaise and muscular aches have occurred. Transient alopecia has been reported. Leukopenia, including granulocytopenia, has been reported rarely. The blood picture has returned to normal following cessation of therapy. As with other antimicrobial agents, superinfections by resistant organisms may occur. With Macrochantin, however, these are limited to the genitourinary tract because suppression of normal bacterial flora elsewhere in the body does not occur.

Dosage: Adult: 50 to 100 mg. four times a day.

Supplied: Macrochantin (nitrofurantoin macrocrystals) Capsules of 50 mg. and 100 mg.

EATON PRODUCT CODE—For easy product identification and verification—Macrochantin Capsules 50 mg. (F03), 100 mg. (F04).

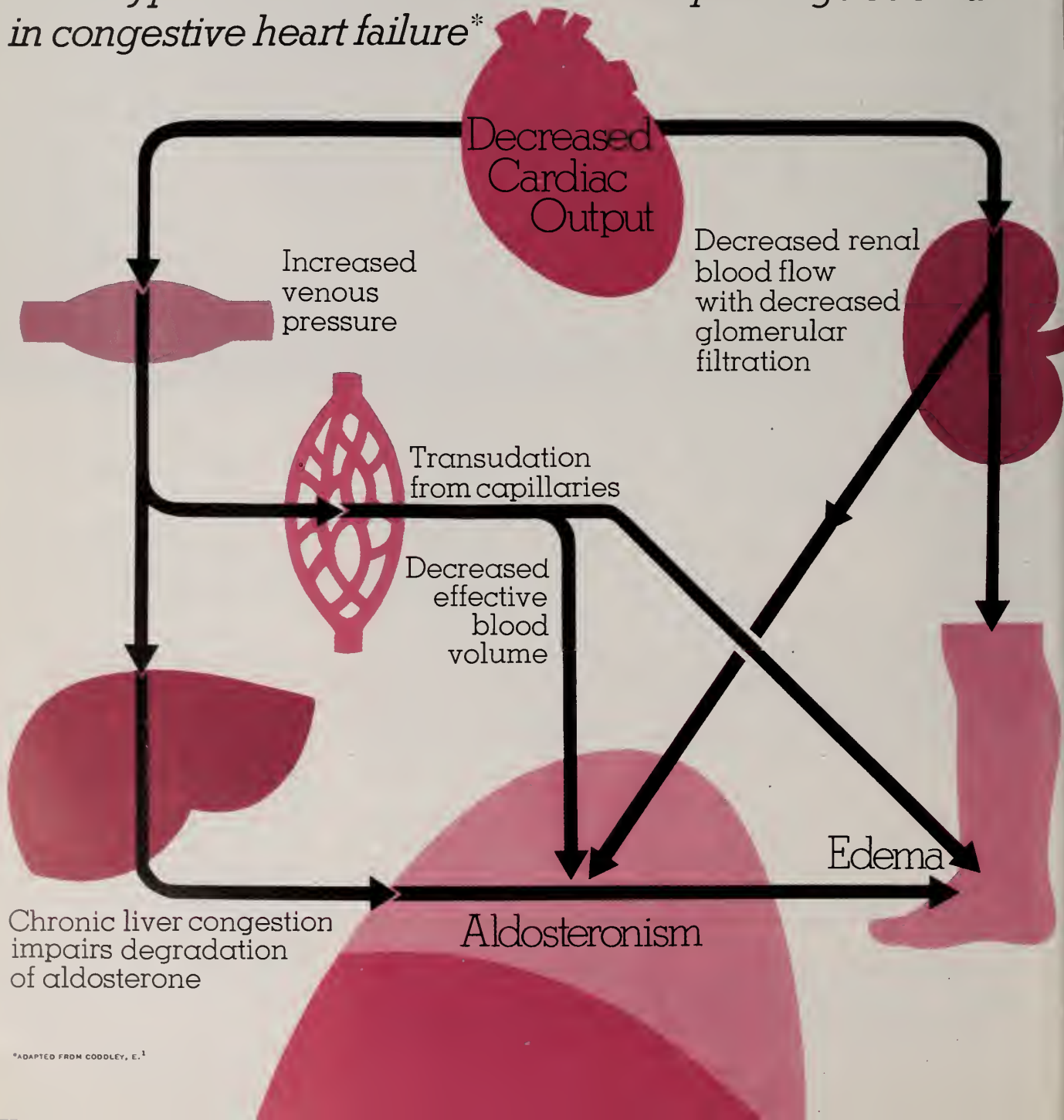


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In congestive heart failure...

secondary aldosteronism

*How hyperaldosteronism leads to and prolongs edema in congestive heart failure**



is a primary factor

To "switch off" the aldosterone factor in congestive heart failure

Aldactone[®] brand of spironolactone 25-mg. tablets the only specific aldosterone antagonist... basic in all diuretic therapy

Three ways to use Aldactone in congestive heart failure

1. As the only diuretic
 - Often sufficient alone.
 - Produces gradual, sustained diuresis by blocking aldosterone action in the distal renal tubule.
 - Avoids potassium loss.
2. As the basic daily diuretic with an "add-on" alternate-day-diuretic ("A.D.D." schedule)
 - Can be administered daily as basic therapy with the additional agent (furosemide or ethacrynic acid) given every second or third day.
 - Aldactone plus "A.D.D." schedule minimizes potassium deficiency and potentiates effect of "add-on" diuretic.²
 - Avoids acute volume depletion and aldosterone rebound.²
3. As a daily diuretic in combination with a daily dose of a thiazide
 - Permits daily additive diuretic effect while maintaining potassium balance.

Indications—Essential hypertension; edema or ascites of congestive heart failure, cirrhosis of the liver and the nephrotic syndrome, idiopathic edema. Some patients with malignant effusions may benefit from Aldactone (spironolactone), particularly when given with a thiazide diuretic.

Contraindications—Acute renal insufficiency, rapidly progressing impairment of renal function, anuria and hyperkalemia.

Warnings—Potassium supplementation may cause hyperkalemia and is not indicated unless a glucocorticoid is also given. Discontinue potassium supplementation if hyperkalemia develops. **Usage of any drug in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the mother and fetus.**

Precautions—Patients should be checked carefully since electrolyte imbalance may occur. Although usually insignificant, hyperkalemia may be serious when renal impairment exists; deaths have occurred. Hyponatremia, manifested by dryness of the mouth, thirst, lethargy and drowsiness, together with a low serum sodium may be caused or aggravated, especially when Aldactone is combined with other diuretics. Elevation of BUN may occur, especially when pretreatment hyperazotemia exists. Mild acidosis may occur. Reduce the dosage of other antihypertensive drugs, particularly the ganglionic blocking agents, by at least 50 percent when adding Aldactone since it may potentiate their action.

Adverse Reactions—Drowsiness, lethargy, headache, diarrhea and other gastrointestinal symptoms, maculopapular or erythematous cutaneous eruptions, urticaria, mental confusion, drug fever, ataxia, gynecomastia, inability to achieve or maintain erection, mild androgenic effects, including hirsutism, irregular menses and deepening voice. Adverse reactions are infrequent and usually reversible.

Dosage and Administration—For essential hypertension in adults the daily dosage is 50 to 100 mg. in divided doses. Aldactone may be combined with a thiazide diuretic if necessary. Continue treatment for two weeks or longer since an adequate response may not occur sooner. Adjust subsequent dosage according to response of patient.

For edema, ascites or effusions in adults initial daily dosage is 100 mg. in divided doses. Continue medication for at least five days to determine diuretic response; add a thiazide or organic mercurial if adequate diuretic response has not occurred. Aldactone dosage should not be changed when other therapy is added. A daily dosage of Aldactone considerably greater than 75 mg. may be given if necessary.

A glucocorticoid, such as 15 to 20 mg. of prednisone daily, may be desirable for patients with extremely resistant edema which does not respond adequately to Aldactone and a conventional diuretic. Observe the usual precautions applicable to glucocorticoid therapy; supplemental potassium will usually be necessary. Such patients frequently have an associated hyponatremia—restriction of fluid intake to 1 liter per day or administration of mannitol or urea may be necessary (these measures are contraindicated in patients with uremia or severely impaired renal function). Mannitol is contraindicated in patients with congestive heart failure, and urea is contraindicated with a history or signs of hepatic coma unless the patient is receiving antibiotics orally to "sterilize" the gastrointestinal tract.

Glucocorticoids should probably be given first to patients with nephrosis since Aldactone, although useful for diuresis, will not directly affect the basic pathologic process.

For children the daily dosage should provide 1.5 mg. of Aldactone per pound of body weight.

References: 1. Coodley, E.: Consultant 12:106-107, 109, 111, 113, 115 (July) 1972. 2. Thorn, G. W., and Loutler, D. P.: Am. J. Med. 53:673-684 (Nov.) 1972

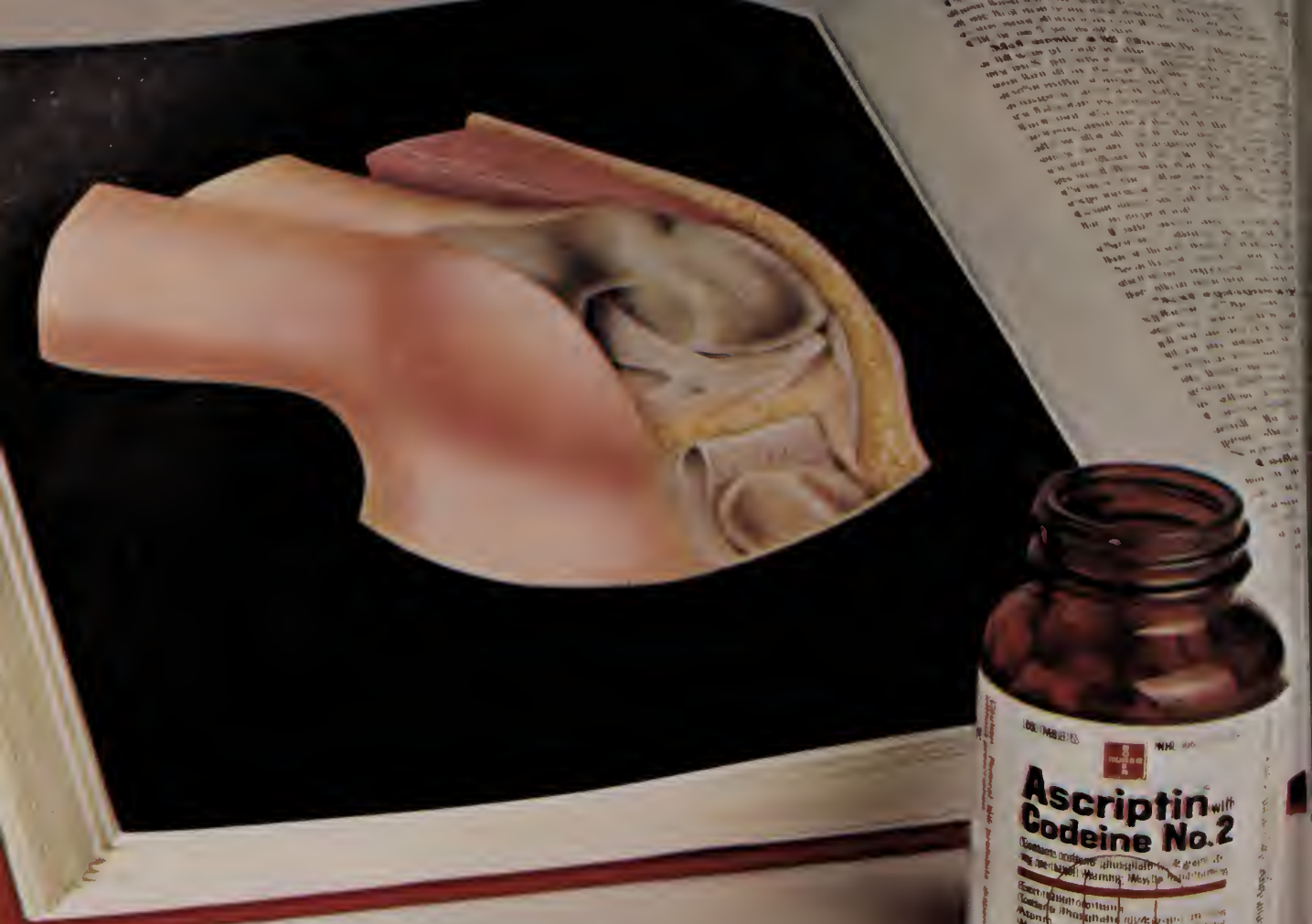
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New Ascriptin[®] with Codeine

Tablets

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#3— $\frac{1}{2}$ grain codeine tablet

Reduces inflammation, relieves severe pain



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When aspirin therapy alone is not sufficient, consider new Ascriptin with Codeine Tablets. The codeine relieves more severe bouts of pain. Yet joint stiffness and inflammation are still eased by basic aspirin—thus avoiding the escalated risks associated with more potent anti-inflammatories or corticosteroids.

And Ascriptin, remember, is Maalox[®]-protected aspirin. That means less chance of aspirin-induced gastric distress... even with high doses.

INDICATION: As an analgesic for the relief of pain of all degrees of severity up to that which requires morphine.

SIDE EFFECTS: Side effects are rare. Nausea, constipation and drowsiness may occur.

Warning—may be habit forming.

USUAL ADULT DOSE: Ascriptin with Codeine #2 ($\frac{1}{4}$ grain): Two tablets every 3 or 4 hrs. when necessary.

Ascriptin with Codeine #3 ($\frac{1}{2}$ grain): One or two tablets every 3 or 4 hrs. when necessary.

Carnation Evaporated Milk. Baby's first taste of real food.

Nothing artificial. It's a real food. With naturally occurring protein and all other nutrients intact. Add supplementary vitamins and carbohydrate and it's a complete, nourishing diet that doesn't pretend to be anything but good, honest nutrition babies thrive on.



For infant formulas

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| 2. | Carnation | — | <i>Evaporated Milk</i> |
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| 4. | Eaton Labs. | — | <i>Macrochantin</i> |
| 5. | Roche Labs. | — | <i>Bactrim, Dalmane, Valium</i> |
| 6. | W. H. Rorer | — | <i>Ascriptin w/Codeine</i> |
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The Bactrim^{T.M.} edge

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of clinical efficacy

- in cystitis, pyelonephritis and pyelitis diagnosed as chronic
- against susceptible strains of the common urinary tract pathogens, usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species.



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

Note: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in chronic and recurrent urinary tract infections.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia in elderly patients on diuretics, primarily thiazides. Sore throat, fever, pallor or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. Data are insufficient to recommend use in infants and children under 12.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, allergy or bronchial asthma; and in those with glucose-6-phosphate dehydrogenase deficiency, where hemolysis may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus,

exfoliative dermatitis, anaphylactoid reactions, peri-orbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12.

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Vol. 66

Noviembre 1974

No.11

Both often



● Predominant
psychoneurotic
anxiety

● Associated
depressive
symptoms

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

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Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

1. Henry BW, *et al*: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, *et al*: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

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(diazepam)

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in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

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Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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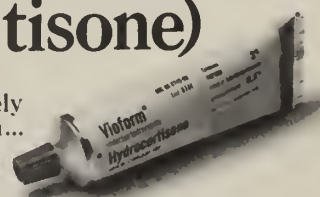
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ESOPHAGEAL ATRESIA AND TRACHEOESOPHAGEAL FISTULA: 5-YEAR EXPERIENCE AT PONCE DISTRICT GENERAL HOSPITAL

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Esophageal atresia without tracheoesophageal fistula was first reported by Durston in 1670 (1). Gibson (1697) twenty seven years later described esophageal atresia associated to tracheoesophageal fistula (2). Description of tracheoesophageal fistula with an intact esophageal lumen was undertaken by Lamb in 1873 (3). The different anatomical types of esophageal atresia associated with tracheoesophageal fistula were gathered, in a classification still in use, by Vogt in 1923 (4). Cameron Haight (1941) holds the merit for the first survival after division and closure of a tracheoesophageal fistula through a direct extrapleural approach with simultaneous primary anastomosis of proximal and distal segments of the atretic esophagus (5, 6, 7, 8).

Esophageal atresia with or without tracheoesophageal fistula leads to respiratory distress in the early neonatal period. Its presence is suspected by the presence of recurrent and persistent abundant oro-pharyngeal secretions that require repeated aspirations. Whenever feedings are offered the infant becomes distressed with choking, coughing and cyanosis. Once the clinical diagnosis is confirmed, it represents an acute surgical emergency.

The purpose of this writing is reviewing all cases with a diagnosis of esophageal atresia and tracheoesophageal fistula admitted to Ponce District General Hospital from June 1968 to June 1973. A comparison of the survival rate is also intended between cases operated upon from June 1968 to December 1971 and those corrected subsequently. The cases included in the last mentioned period were corrected following the technique devised by Cameron Haight.

Clinical Material and Methods

Fourteen patients with a final diagnosis of esophageal atresia and tracheoesophageal fistula admitted to Ponce District General Hospital from June 1968 to June 1973 were included in this study. Clinical diagnosis was suspected by the appearance in the early neonatal period of recurrent abundant oro-pharyngeal secretions and by the occurrence of episodes of choking, coughing and cyanosis after feedings. Diagnosis was confirmed by radiography with or without contrast material instilled into the esophagus.

The cases were grouped anatomically, using a modified version of Vogt's classification and verified at the time of operation, as follows:

- I - esophageal atresia without fistula
- II - esophageal atresia with proximal fistula
- III - esophageal atresia with distal fistula
- IV - esophageal atresia with proximal and distal fistula
- V - fistula without esophageal atresia

Patients were also evaluated according to sex, birth weight, place of origin, age at hospitalization, age at surgery, preoperative and postoperative complications, type of surgery, associated anomalies and survival rate.

The hospital admissions were as follows: three cases in 1968, one case in 1969, two cases in 1970, three cases in 1971, one case in 1972 and four cases from January to June 1973.

Occurrence of these anomalies was more prevalent in the second semester of the year, with 10 cases admitted in the last semester of the years considered. Regional prevalence was not evident from this review. The female sex predominated with a female: male ratio of 9:5 (Table I).

The weight of 5 pounds and 8 ounces was used as the upper limit of birth weight for classification of low birth weight infants.

Nine cases (Table I) had a birth weight over 5 pounds and 8 ounces while five cases were low birth weight infants. Obvious associated congenital anomalies were present in three cases. One case had ventricular septal defect (Case 13) and two cases presented Down's syndrome features (Cases 3 and 9). Twelve cases (Table I) had a type III fistula (86 percent), one case had a type IV (Case 6) and one case had a type I (Case 9). This distribution agrees with the ones reported in the literature (9, 10, 11, 18, 19, 20, 21).

Pre-operative evaluation revealed bronchopneumonia in 12

TABLE I
CLINICAL DATA

Case No.	Sex	Birth Weight	Type of Fistula
1	F	6 lbs.	III
2	F	5 lbs. 8 oz	III
3	F	5 lbs. 4 oz	III
4	M	6 lbs. 11 oz	III
5	M	5 lbs.	III
6	M	6 lbs. 2 oz	IV
7	F	6 lbs. 6 oz	III
8	M	4 lbs. 8 oz	III
9	M	4 lbs. 8 oz	I
10	F	6 lbs. 10 oz	III
11	F	6 lbs. 2 oz	III
12	F	5 lbs. 11 oz	III
13	F	6 lbs. 14 oz	III
14	F	6 lbs. 1 oz	III

TABLE II
CLINICAL DATA

Case No.	Age at Hospitalization	Interval between admission and surgery	Long Term Survival
1	59 hours	48 hours	7 days
2	23 hours	23 hours	4 days
3	36 hours	12 hours	3 days
4	24 hours	9 hours	Alive (4 years)
5	120 hours	38 hours	8 days
6	168 hours	96 hours	21 days
7	12 hours	20 hours	Alive (2 years)
8	16 hours	12 hours	3 days
9	31 hours	24 hours	4 days
10	48 hours	14 hours	Alive (1 year)
11	24 hours	16 hours	Alive (8 months)
12	38 hours	18 hours	15 days
13	2 hours	13 hours	Alive (6 months)
14	45 minutes	24 hours	Alive (2 months)

TABLE III
SURGICAL RESULTS

	Number of Cases	Survivals	Percentage
Before 1971	6	1	16.6 percent
After 1971	8	5	62.5 percent

cases. The only two cases free from this complication were admitted at 2 hours and 45 minutes of age respectively (Cases 13 and 14).

The age of hospitalization (Table II) ranged from 45 minutes to 168 hours. The interval between admission to Ponce District General Hospital and surgical repair (Table II) ranged from 9 hours to 96 hours. Surgery included division of fistula, esophago-esophagotomy and in some cases gastrostomy.

The technique for correction of esophageal atresia and tracheoesophageal fistula has been modified in our hospital during the last two and a half years and including the last eight cases. The present technique after Cameron Haight's method includes a right postero-lateral thoracotomy entering the retropleural space through the fourth intercostal space. The parietal pleura is dissected off the chest wall down to the level of the azygos vein, superiorly to the thoracic outlet and medially to a level anterior to the trachea. This dissection of the pleura is more than sufficient to expose the distal and proximal esophagus and trachea. The distal esophagus is sectioned almost flush with the trachea thus preserving almost an entire centimeter in length. This we feel is superior to ligation as the cuff sacrifices length which may be needed for tensionless anastomosis. The proximal esophagus is dissected and opened slightly posterior to its most dependent point. The distal esophagus is sectioned longitudinally and anteriorly about 0.5 cm. The anastomosis is performed in interrupted fashion using 5-0 silk. A number 8 chest tube is placed in the retropleural space and the chest closed in standard fashion. The most important considerations in the post-operative management are the management of the pulmonary problems. All our patients with one exception have had serious pulmonary complications. Most of them including complete atelectasis of the right lung. This has been treated successfully by repeated direct endotracheal aspiration using a baby laryngoscope. High humidification of environment is also very important. Fluids should be restricted to a bare minimum. This often means 50 cc in 24 hours. One must bear in mind that dehydration is easily treated while overhydration may be fatal. No fluids are given by mouth until an esophagogram rules out the possibility of esophageal fistula. The chest tube is left in place for about six to seven days in order to insure adequate drainage of any fistula that might occur. The gastrostomies at this age are more troublesome than expected. The tube should be brought out through a separate small tap incision and care must be taken so that the tube will not progress into the duodenum causing obstruction. The gastrostomy tube is left in place until the patient can take two or more ounces of formula per feeding. Esophageal dilatation is performed in all patients 2 weeks post surgery. This procedure will avoid late esophageal stenosis.

Results

Post-operative complications included bronchopneumonia in the first 13 cases (bronchopneumonia had been present pre-operatively in the first 12 cases), atelectasis in 7 cases (50 percent) and stenosis of the esophago-esophagotomy in 2 cases (14.2 percent).

There were no survivals in infants with a weight below 5 pounds and 8 ounces. There were 6 survivals

(42.8 percent) among the 14 cases included in the review with a long term survival ranging from 2 months to four years (Table II). Prior to 1971 there was only one survival (Case 4). In 1971 Haight's surgical approach and management was adopted (Table III). Since then eight cases have been operated with 5 infants (62.5 percent) surviving (Cases 7, 10, 11, 13 and 14). During the first semester of 1973 four cases have been operated with three surviving (75 percent).

Discussion

Esophageal atresia and tracheoesophageal fistula originate between the third and the sixth week of gestation (20, 21). The incidence ranges from 1:1,300 to 1:4,500 births (11, 18). These anomalies are rare in siblings but occasionally have been seen in twins (10, 18).

Esophageal atresia and tracheoesophageal fistula are associated to other congenital anomalies in 30 percent of the cases (16, 17). The most frequent and most important of these anomalies are cardiovascular (aortic coarctation, persistent ductus arteriosus, vascular ring, dextrocardia and aberrant right subclavian artery) and gastrointestinal (imperforate anus, duodenal atresia due to annular pancreas and pyloric stenosis). It is also associated to low birth weight in 30 percent of the cases (18).

Twenty-one percent of our cases (3 cases) had other obvious congenital anomalies. Low birth weight was present in 35.7 percent of our cases (5 cases). These differences might well be due to the small number of cases in our series.

With respect to the most frequent type of fistula in our series, we encountered that type III fistula was present in 86 percent of the cases. This is about the same frequency found in the literature (8, 9, 10, 11, 12, 13, 14, 15).

The female sex predominated 9:5 in our cases. This differs with the findings of others who have reported a male predominance of 3:2. Again this may well be due to the smallness of our series.

Survival of these cases depends not only on the presence of prematurity and associated anomalies but also on an early diagnosis. This prevents complication with aspiration pneumonia. A high degree of suspicion, when one encounters a history of Polyhydramnios, profuse sialorrhea and choking spells after every feeding attempt, will lead to an early diagnosis. All our cases except two were complicated pre-operatively with bronchopneumonia. It is evident that our poor results with low birth weight infants was mainly due to this complica-

tion.

The earlier a correct diagnosis is made the earlier a surgical correction can be undertaken. All our survivals (Table II) were corrected 24 hours or less after admission to hospital. There was no survival in our cases when the interval between admission and surgery was longer than 24 hours.

The change of technique using an extrapleural approach, despite the fact that almost all our cases had pre-operative pulmonary problems, has improved (Table III) significantly our results, comparing favorably with that of others (8, 9, 10, 11, 12, 14, 15).

Summary

Fourteen cases with esophageal atresia and tracheoesophageal fistula admitted to Ponce District General Hospital from June 1968 to June 1973 have been analyzed.

A modification in surgical technique and medical management improved our results from a survival of 16.6 percent prior to 1971 to a survival of 62.5 percent after 1971, when the modification was adopted.

Resumen

Catorce casos con diagnóstico de atresia esofágica y fistula traqueoesofágica han sido presentados. Dichos casos fueron admitidos al Hospital General de Distrito de Ponce en el período comprendido entre junio de 1968 y junio de 1973.

Modificando la técnica operatoria y el cuidado médico post-operatorio se logró mejorar la supervivencia de 16.6 por ciento antes de 1971 a 62.5 por ciento después de esta fecha.

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GONADAL DYSGENESIS IN CHROMATIN-POSITIVE PATIENTS

Col. Antonio Morales, MD, FACOG

In 1938, H. H. Turner described seven patients with primary amenorrhea, sexual infantilism, congenital webbed neck and cubitus valgus (7). It was later shown that the important pathological defect was the absence of normal ovaries which are invariably replaced by the white streaks of stroma without follicles (8). With the addition of hundreds of cases, the criteria for the syndrome have been modified and expanded, so that now it can be defined more accurately as a disorder of women with short stature, sexual infantilism, streak gonads, and associated congenital malformations as the four cardinal features. The associated congenital anomalies include shield chest, webbing of the neck, lymphedema at birth, short fourth metacarpals, hypoplastic nails, multiple pigmented nevi, cardiovascular, renal and many others.

A great number of patients have been reported that do not conform with the classical description nevertheless have some of the features and they have been classified as Turner's variants. In 1954 it was shown that many patients with Turner's syndrome had chromatin-negative buccal smears and a few years later the explanation of this anomaly was provided by the demonstration of an XO chromosome constitution in a typical patient (3). Since then many patients with Turner's syndrome or its variants have been found, but with chromatin-positive buccal smears and different karyotypes, some of them showing normal XX constitution. Invariably these patients all have a common denominator: abnormal ovarian development and hence they are called gonadal dysgenesis. The concept of gonadal dysgenesis as proposed by Grumbach, Van

Wyck and Wilkins in 1955 (4), includes phenotypical females with one or more features of the already described spectrum of anomalies regardless of their nuclear sex or their karyotype. Anatomically, these patients show streak gonads that consist mainly of fibrous tissue usually without primordial cells, I say usually, because some of these streaks show germ cells. These germ cells according to the evidence presented by the work of Singh and Carr (6) do migrate into the streaks, but it is believed that there is rapid attrition of primary oocytes during late fetal life and early neonatal life possibly due to the genetic deficiency in the X chromosome. The presence of these germ cells explains the two well documented cases of Turner's syndrome that conceived (1, 5) and 20 other cases in which regular menstruation have occurred for a period of time, until the supply of follicles is exhausted.

In this paper I will report three cases that conformed to the concept of gonadal dysgenesis, but were chromatin-positive and their karyotypes were others than the classical XO. I will also attempt to explain the significance of these variations and the importance of establishing a definite diagnosis.

Materials and Methods

These three cases were selected from the Keesler Medical Center at Mississippi from July 1968 to the present time. During this period of time a total of five cases of gonadal dysgenesis, two of them with classical XO karyotypes were recorded.

Case No. 1 (L. T.) Register No. 254112

L. T. was a 16-year old white female who had not experienced spontaneous menstruation, telarche or pubarche by the age of 14, when she was first seen at another hospital. Initial work up revealed short stature (55 1/2 in), sexual infantilism, cubitus valgus and elevated gonadotro-

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phins. She was placed on cyclic estrogens therapy resulting in good breast development and pubic and axillary hair growth. She established cyclic withdrawal bleeding also. After four months she developed bothersome intermenstrual bleeding, stopped estrogen therapy and was referred to our hospital. Our workup revealed chromatin positive buccal smear, short stature, low hairline, hypoplastic mandible, a high-arched palate, cubitus valgus, short metacarpals, atrophic vaginal smear and fine axillary hair and pubic hair. The breasts were fairly well-developed with very lightly pigmented areola and nipples. Pelvic exam was normal except for the atrophic vaginal smear. Karyotype was reported as X Isochrome X. At laparotomy a normal but hypoplastic uterus and tubes with bilateral streak gonads were found. The streaks were removed and incidental appendectomy was performed. The histological diagnosis was collagenous tissue resembling stroma with no demonstrable germinal epithelium germ cells or primordial follicles. Subsequently, the patient did well, was placed on sequential progestin therapy, has well-developed breasts, cyclic bleeding, and has adjusted very well to her expected infertile role.

Case No. 2 (M. E. M.) Register No. 282948

36-year-old Gravida 0, Para 0 with primary amenorrhea. The patient's only menstrual period was at the age of 18 after withdrawal from a "hormone shot". She had been partially evaluated nine years prior to admission, but a definite diagnosis was not established. She had poor breast development, no axillary hair, but had good amount of pubic hair. Two months previously she had a melanoma removed from her left arm. Her family history was non contributory. Our work up revealed a white, well developed female, 61 1/2" tall, weight 125 lbs. with the following significant findings: low hairline, short neck but no webbing, hypoplastic breasts with shield-type chest, short 4th metacarpals, cubitus valgus, and multiple pigmented nevi. On pelvic examination the external genitalia was normal. The vagina was adequate but atrophic. The uterus was small and there were no adnexal masses. Vaginal smear consisted of parabasal cells. A tentative diagnosis of gonadal dysgenesis was entertained, the karyotype was reported as 92 percent 46XX, 4 percent 45XO and 4 percent less than 45, consistent with a predominantly 46XX karyotype but most probably a mosaic 46XX/45XO. The patient was quite reluctant to take estrogen therapy because of extreme fear of cancer and menstruation. It was decided to do a laparotomy and patient accepted this quite well. On exploration a hypoplastic uterus with normal tubes and typical white striae were found. Hysterectomy, bilateral salpingectomy and removal of gonadal streaks were performed. Histologically the specimen showed cystic hypoplasia of endometrium, hypoplastic myometrium, normal tubes and streak ovaries, compatible with ovarian dysgenesis, with no primordial follicles. The patient accepted sequential therapy after her surgery and she is quite happy now with full knowledge of her new status. She has well developed breasts and her libido has improved.

Case No. 3 (T. P.) Register No. 293066

T. P. was a newborn infant born by Cesarean Section. At birth she was found to have several somatic abnormalities: low hairline, low set ears, webbing of the neck, wide shield-type

chest, peripheral edema, normal external genitalia with a normal vagina. Radiologically bifid ribs and hemivertebrae were also found. However, Barr bodies were present on buccal smears cells and chromosomal studies revealed normal 46XX karyotype. The patient died on her fifth day of life and at autopsy, uterus and vagina were present as well as normal Fallopian tubes, however the gonads were white streaks containing well developed primordial follicles and an occasional Graafian follicle and clusters of hilar cells, all contained in a predominantly fibrous stroma.

Discussion

In a review of the literature it is apparent that the full expressivity of the Turner's syndrome depends on the absence of one of the X-chromosome resulting in a karyotype of only 45 chromosomes and so only half of the sex chromosomes constitution. In other patients the expressivity is only partial due to the fact that there is only partial absence of the X-chromosome or deficiency of the chromosome due to dilution of the genetic material available. In patients with a demonstrable X-chromosome aberration the karyotype-phenotype correlation shows that the aberration common to all those with the complete Turner's syndrome is a deficiency or monosomy of the X-chromosomes. In order to explain the variants with XX constitution or those with some aberration in one of such chromosome but without complete absence of the whole chromosome, Ferguson-Smith (2) has postulated that there exists a locus in the X-chromosome that is responsible for the full development of the gonads and if this locus is absent by some meiotic aberration, such as a deletion, there will be incomplete gonadal development, the extent of which, will depend on how much material is lost. Similarly, the number of somatic abnormalities will also be a function of the amount of genetic material absent. This genetic loss can be accounted for, either by an X chromosome structural deficit or by dilution of the material at hand. The phenomenon of mosaicism is an example of genetic dilution, and the number of anomalies will depend on the proportion of abnormal line cells to normal ones in the various tissues differentiation. In the structural X-aberration-group, the phenotype clearly depends on the extent and localization of the deletion, for the complete Turner's syndrome occurs when the short arm of the X- is absent or deficient. Cases of gonadal dysgenesis with masculinization, such as those with Xx, can be explained on the basis that the small x is actually a small y, quite deficient in its short arm. This proposition assumes that there is a homologous locus in the short arm of Y-chromosome, that corresponds with the locus in the short arm of the X and

both have to do with characteristics such as normal stature and other somatic features. When this locus is absent, short stature and other Turner's stigmata will be manifested. Absence of the long arm of the X will result in streak gonads but not in short stature.

In patients with gonadal dysgenesis with normal XX karyotype, the explanation lies possibly in the fact that the loss of genetic material is so subtle that this is not detectable by the present laboratory methods or due to the failure to do enough chromosome cultures of different tissues that could have revealed the phenomenon of mosaicism. This could explain the last case presented here.

The reason why these patients have positive buccal smears is not too hard to explain since they did not have complete absence of the X-chromosome. As a matter of fact, patients with an X-isochromosome usually show larger than normal Barr bodies and those with mosaicism reveal a lower than usual percentage of cells with Barr bodies. This observation can give you the clue that you are dealing with such patients. The last case presented here contained gonads with multiple oocytes. It is presumed that these oocytes would have suffered rapid attrition in neonatal life. Had some of the oocytes persisted beyond puberty, she would have been the patient with gonadal dysgenesis and menstruation and possibly a pregnancy.

Summary

Three cases of Turner's variation with gonadal dysgenesis have been presented. All the patients were buccal smear positive and all had karyotypes other than XO. They have various characteristics designated as Turner's stigmata and the fact that they are so dissi-

milar tends to strengthen the belief that these different phenotypes can be explained on a variable sex chromosome deficiency in Turner's syndrome and its variants. This deficiency can be attributed to either a chromosome aberration or to chromosome mosaicism. Patients with chromatin-positive smears that have characteristics of the Turner's spectrum deserve chromosome studies since their karyotypes invariably will reveal a sex chromosome aberration, in the form of a structural deficiency or in the form of a dilution.

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OSTEITIS FIBROSA CISTICA GENERALIZADA

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Desde que el primer adenoma de paratiroides le fue extirpado a un paciente con osteitis fibrosa quística generalizada en el 1925 (1), gradualmente se han añadido muchos rasgos nuevos al síndrome clásico, se han extendido los criterios diagnósticos, y los parámetros normales y anormales de las glándulas paratiroides han sido ampliamente definidos.

Recientemente estudiamos un paciente con una masa en el campo pulmonar superior derecho, múltiples radiolucencias quísticas en varios huesos, masa polipode gástrica e hipercalcemia. Provocaba este cuadro clínico un adenoma de gran tamaño de la paratiroides, que producía osteitis fibrosa quística generalizada asociada a tres tumores pardos, osteoclastomas o mieloplaxomas ("brown tumors") de hueso. Presentamos a continuación dicho caso, con estudios antes, y un año y medio después, de tratamiento.

Exposición del Caso

O. R. L., un paciente varón de 57 años de edad, fue ingresado a un hospital privado de la Capital el 10 de marzo de 1972 para estudios. Su primera admisión tuvo lugar en noviembre de 1971 debido a pérdida de peso y dolor epigástrico. Le habían diagnosticado úlcera péptica 20 años atrás y dio historial de haber sangrado en dos ocasiones, la última 15 años antes. Ingería bebidas alcohólicas en grandes cantidades. No había signos clínicos de cirrosis hepática. La radiografía de tórax demostró una densidad en el campo pulmonar superior derecho, y una lesión osteolítica en la tercera costilla derecha. Se pensó que el diagnóstico era carcinoma de estómago con metástasis. El análisis gástrico reflejó hipoclorhidria moderada. Las radiografías de estómago demostraron una lesión polipode en el antro. Llegado este momento, el paciente rehusó someterse a más estudios y abandonó el hospital. No se hicieron determinaciones de calcio.

En diciembre de 1971 sostuvo fractura patológica del brazo izquierdo y se observó una lesión osteolítica en el cúbito (ulna). También presentaba un tumor en la parte dorsal de la mano izquierda. No fue hasta marzo de 1972 que el paciente consintió a hospitalizarse para biopsia de hueso y otros estudios. Al descubrirse que sus calcios séricos eran de alrededor de 14 mgm por ciento, se nos llamó en consulta para evaluación endocrina.

Acusaba poliuria, polidipsia, ardor en los ojos, anorexia, pérdida de peso, apatía, náuseas, estreñimiento, artralgias y dolores en los huesos. Lucía ligeramente deshidratado. No había antecedentes de enfermedad renal.

En el examen físico, los únicos hallazgos pertinentes fueron: caquexia generalizada, un soplo apical tipo eyectivo grado 2 en el foco aórtico y una masa dura en el dorso de la mano izquierda que medía 2.5 x 3.5 centímetros. El examen del cuello fue completamente negativo.

Radiografías:

1. Estómago: dos lesiones polipoides de apariencia probablemente benigna en la región del antro, con aparente movilidad hacia el bulbo duodenal.

2. Pielografía intravenosa: normal.

3. Esofagografía: normal.

4. Huesos: (figuras 1 y 2) a. osteoporosis marcada y generalizada. b. cráneo tiene aspecto granular calefíco con pérdida de detalle de las tablas. c. radiolucencias quísticas en varios huesos: tercio distal de la tibia y fíbula derechas, cuello quirúrgico del húmero izquierdo, porción proximal de la ulna izquierda en la región de los procesos coronoides y coracoides, tercer metacarpiano de la mano izquierda y tercera costilla derecha.

5. Tórax (figuras 3 y 4): Destrucción del aspecto lateral de la tercera costilla derecha asociada a una masa de tejido blando en la periferia del campo pulmonar superior derecho. La masa se extiende hacia el tejido blando de la axila. El pulmón izquierdo y el corazón son normales.

Exámenes de laboratorio y otros estudios:

1. Función hepática: normal.

2. Hemograma, colesterolemia, glucemia y análisis de orina: normal.

3. Proteína de Bence Jones en orina: negativa.

4. Fosfatasa ácida sérica: normal.

5. PPD: negativo a las 24 y 48 horas.

6. Depuración de creatinina: 61 ml/min.

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Fig. 1: Lesión cística de todo el tercer metacarpiano de la mano izquierda con acortamiento en tamaño y evidencia de fractura antigua. Se observa también resorción subperióstica y desmineralización.



Fig. 2: Radiolucencia cística en la porción proximal de la ulna izquierda.



Fig. 3: Radiografía de tórax que demuestra destrucción del aspecto lateral de la tercera costilla derecha asociada a una masa de tejido blando en la periferia del campo pulmonar superior derecho, y se extiende hacia el tejido blando de la axila.

7. Calcio en orina de 24 horas: 422 mgn (valores normales: 150-300).
8. Hidroxiprolina total en orina de 24 horas: 85 mgn (valores normales: 14-45).
9. Reabsorción tubular de fosfato: resultado no disponible.
10. Electrolitos, Na 132, Cl 100, K 3.8 mEq/l, CO_2 25 mM/l
11. Análisis gástrico: normal.
12. Citología gástrica: negativa para células malignas.
13. Gastroscofia: se identificaron dos pólipos de 1.5 cm de diámetro en la curvatura menor del estómago; uno de ellos tenía un tallo largo y parecía proyectarse hacia el duodeno a través de la apertura pilórica.

Evolución Clínica:

Al descubrirse hipercalcemia marcada y persistente, se prescribió una dieta pobre en calcio, en fósforo y en hidroxiprolina. Luego se procedió con estudios que eliminaron todas las causas conocidas de esta alteración metabólica (Tabla I), con excepción del hiperparatiroidismo primario. Biopsias óseas de la tercera costilla derecha y de la ulna izquierda revelaron tumores pardos característicos de hiperparatiroidismo primario (agregaciones de células gigantes, osteoclastos y osteoblastos (Fig. 5).

TABLA 1: CONDICIONES QUE PUEDEN PRODUCIR HIPERCALCEMIA

1. Hiperparatiroidismo primario
2. Sarcoidosis
3. Síndrome "milk alkali"
4. Mieloma múltiple
5. Intoxicación con vitamina D
6. Enfermedad de Addison
7. Osteoporosis aguda de desuso
8. Neoplasia con metástasis ósea
9. Neoplasia sin metástasis ósea
10. Tumores secretores de hormona paratiroidea



Fig. 4: Ampliación de la lesión del tórax.

El 10 de abril de 1973 el paciente se sometió a exploración quirúrgica del cuello y se identificaron tres (3) glándulas paratiroides normales. La cuarta glándula (inferior derecha) fue más difícil de identificar porque se encontraba localizada en el espacio paratraqueal retrosternal y la reemplazaba una masa bien encapsulada que medía 2.0 x 4.0 x 2.5 centímetros. Se escindió "in toto" este tumor cuyo peso fue de 18.2 gramos

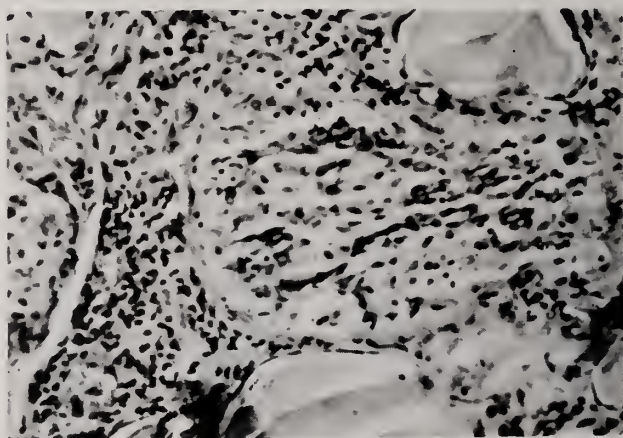


Fig. 5: Microscópico de biopsia ósea de tercera costilla derecha con los cambios típicos de tumor pardo ("brown tumor") óseo de hiperparatiroidismo primario.

(Fig. 6). Era de color marrón amarillento, cubierto por una cápsula brillante, y al corte la superficie era esponjosa con pequeños quistes aislados llenos de un líquido color crema. El diagnóstico histológico fue adenoma de célula principal de paratiroides (Fig. 7).

En el período postoperatorio hubo cuatro (4) episodios de hipocalcemia grave que requirieron inyección de gluconato de calcio por vía endovenosa. La convalecencia fue excelente. Se dio de alta al paciente el 21 de abril de 1972. Tomaba para entonces 16 gramos diarios de lactato de calcio y recibía una dieta rica en calcio.

Continuó tomando sus tabletas de lactato de calcio hasta que se omitió ese tratamiento en septiembre de 1972. Desde entonces, sus calcios séricos y fosfatasa alcalina se han mantenido normales; los dolores óseos han desaparecido totalmente; el paciente se encuentra completamente asintomático. En la

TABLA II

Fecha	Calcio Sérico (mgm por ciento)	Fósforo Sérico (mgm por ciento)	Fosf. Alcalina (U. B.)
3/11/72	12.9	3.1	35
4/1/72	14.6	3.2	40
4/7/72	14.6	3.0	38
4/10/72	14.5		
4/10/72 (cirugía)			
4/11/72	11.2		
4/12/72	9.8		
4/13/72	8.9		
4/14/72	8.8		
4/15/72	6.1		
4/18/72	7.8		
4/19/72	8.9		
4/21/72	9.6		
6/8/72	10.1		15.3
8/31/72	10.6		
12/1/72	9.9	4.1	
7/20/73	9.5	3.37	2.37
12/12/73	10.0	4.8	2.00

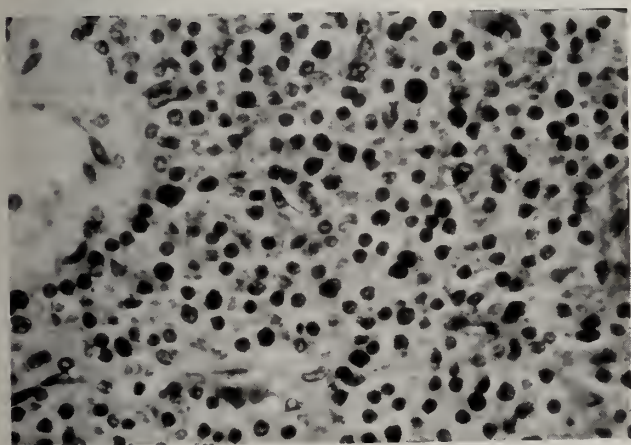


Fig. 6: Adenoma de paratiroides extirpado quirúrgicamente de color marrón amarillento cubierto por una cápsula brillante.



Fig. 7: Microscópico del adenoma de paratiroides donde se observa predominio marcado de células principales ("chief cell adenoma").

Tabla II podemos apreciar las variaciones en las químicas sanguíneas, preoperatoriamente y hasta un año y medio después de cirugía. En agosto de 1973, repetimos todos los estudios radiológicos óseos y se comprobó una gran mejoría: aumento en el grado de mineralización y disminución en el tamaño de varias de las lesiones císticas.

Los llamados tumores pardos disminuyeron marcadamente en tamaño y demostraron elaboración de hueso nuevo con trabéculas (Figs. 8, 9, 10).

Discusión

La osteitis fibrosa cística representa la etapa más avanzada de la enfermedad ósea del hiperparatiroidismo primario. En el 1891, Friederick D. Von Recklinghausen, patólogo de Estrasburgo, describió la clásica enfermedad ósea que hoy lleva su nombre (2). En el 1925, Mandl, cirujano de Viena, extirpó el primer

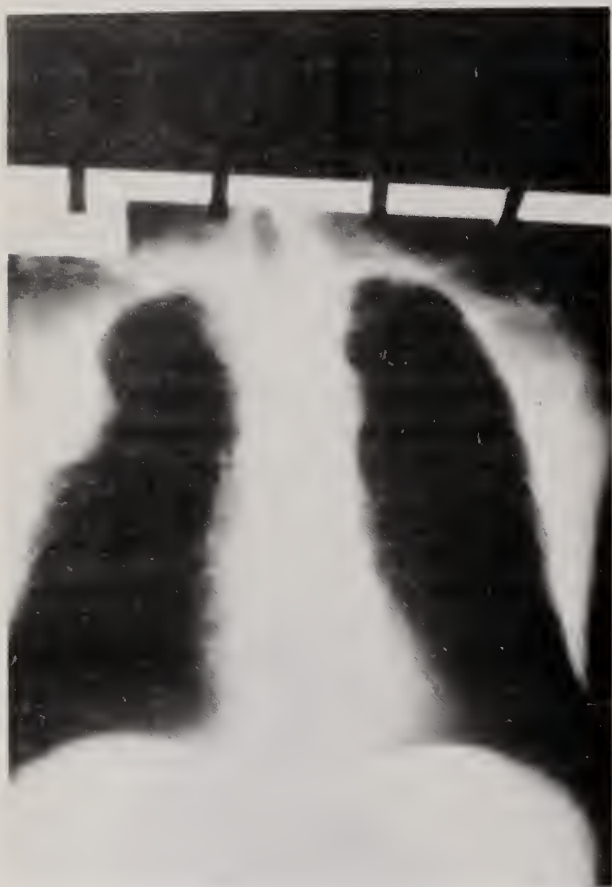


Fig. 8: Lesión torácica se encuentra reducida en tamaño y localizada en la tercera costilla derecha. (1 1/2 año post-operatorio).



Figs. 9 y 10: Osteoclastomas ("brown tumors") del tercer metacarpiano de la ulna izquierda prácticamente han desaparecido y lucen escleróticos con formación de hueso nuevo (1 1/2 año postoperatorio).



adenoma de paratiroides en un paciente con los cambios típicos óseos (1). Un año más tarde, esta operación se practicó por primera vez en América, en el Massachusetts General Hospital, en el famoso caso del capitán Charles Martell (3). Fue en esta institución donde las incansables y brillantes investigaciones de médicos como Albright y Bauer lograron la mayor parte de los conocimientos que hoy tenemos sobre la hiperfunción paratiroidea.

Recientemente fueron descritos en este mismo Boletín catorce pacientes del Hospital Universitario en Río Piedras (4). Solamente dos de éstos presentaban signos de enfermedad ósea: el primero, con resorción subperióstica de las manos y ausencia de lámina dura dental, y el otro con osteoporosis difusa. Ninguno demostró cambios císticos. Aunque solamente 10 por ciento de los pacientes con hiperparatiroidismo primario demuestran

cambios óseos por radiografías -- a la vez que tienen una tasa elevada de fosfatasa alcalina --, en estudios de biopsia y autorradiográficos todos dan prueba de enfermedad ósea (5). Los parámetros usados clínicamente para la identificación de la enfermedad ósea, como por ejemplo, los estudios esqueléticos radiológicos, la fosfatasa alcalina sérica y la hidroxiprolina urinaria, muchas veces no son lo suficientemente sensibles como para diagnosticar cambios óseos en las etapas tempranas de la enfermedad.

En general, la fosfatasa alcalina en sangre está directamente relacionada con el grado de osteitis fibrosa cística. Dent y Harper (6) encontraron que pacientes hiperparatiroideos con elevación significativa de fosfatasa alcalina usualmente tenían hallazgos radiológicos específicos de osteitis fibrosa, como, por ejemplo, erosiones subperiósticas o quistes óseos. En la serie de Frame (7) con más de cien casos de hiperparatiroidismo primario, la fosfatasa alcalina más alta fue de 17 unidades Bodansky (U. B.). En el repaso de la literatura que hicieron Hodgkinson y sus asociados (8), los valores más altos que encontraron fueron de 35 U. B. Nuestro paciente tuvo niveles de 46 U. B., que, postoperatoria y lentamente, descendieron a niveles normales según es de esperarse cuando cura la enfermedad. Estos niveles tan altos de fosfatasa alcalina (preoperatoriamente) se explican a base de los extensos cambios óseos que discutiremos más adelante.

La hipersecreción crónica de hormona paratiroidea, a través de su interrelación con el calcio y fósforo plasmáticos, la vitamina D y la calcitonina, produce un aumento marcado en la resorción ósea; consecuentemente, se inhibe la formación de hueso y disminuye la masa ósea: es decir, se altera el equilibrio entre resorción y acreción ósea.

Los síntomas y hallazgos físicos clínicos, químicos, radiológicos, y patológicos causados por el hiperparatiroidismo primario se deben a los efectos renales y óseos de la hormona paratiroidea y a la hipercalcemia *per se*.

Efectos Renales

Los cambios renales de la enfermedad consisten de cálculos y nefrocalcinosis, debidos a la hipercalcemia en presencia de una orina alcalina con un contenido alto de fosfato. Puede haber cólicos renales, hematuria y pielonefritis, lo cual puede progresar a uremia con anemia e hipertensión. Los cálculos son radiopacos ya que consisten, casi todos, de oxalato y fosfato de calcio.

El paciente que motiva este escrito no adolecía de nefrolitiasis. Aunque tenía, preoperatoriamente, una disminución moderada de su filtración glomerular, un año más tarde su creatinina sérica y urea nitrogenada retornaron a la normalidad. La incidencia de cálculos renales en hiperparatiroidismo primario varía de 60-80 por ciento (9, 10), y de todos los pacientes con piedras renales alrededor de un 5 por ciento tienen hiperparatiroidismo primario (11).

La hipercalcemia también ocasiona una disminución en la capacidad de concentración renal que, junto con la carga osmótica aumentada, produce polinuria y polidipsia.

Efectos de la hipercalcemia

Nuestro paciente acusaba varios síntomas directamente relacionados con la hipercalcemia: polinuria, polidipsia, deshidratación, confusión mental, debilidad muscular, anorexia y ardor en los ojos. Otros hallazgos que pueden ocurrir son: disminución en el intervalo QT del electrocardiograma, arritmias cardíacas, queratopatía en banda (ocular), sensación de arenilla en los ojos y fotofobia. Los síntomas o hallazgos serán tanto más prominentes cuanto mayor sea el calcio sérico: en casos donde este ión exceda los 15 mgm por ciento, se considera una urgencia médica conocida como la crisis hipercalcémica. En esta situación, es imprescindible hospitalizar al paciente y en ocasiones hay que comenzar tratamiento con infusiones de sulfato para evitar el paro cardíaco. Una vez que se logra reducir el nivel del calcio sanguíneo a valores menos peligrosos, pueden proseguir los estudios diagnósticos.

Entre las complicaciones gastroentéricas más comúnmente asociadas a hiperparatiroidismo se encuentran la úlcera péptica y la pancreatitis aguda. Varios investigadores han informado que la incidencia de úlcera péptica en hiperparatiroidismo primario es de 10 por ciento (12), y, aunque esto es similar a lo que ocurre en la población en general (con paratiroides normales), lo cierto es que al 50 por ciento de estos pacientes se les curan las úlceras luego de haberse extirpado el adenoma. En experimentos fisiológicos se ha demostrado, tanto en humanos como en animales, que la hipercalcemia provocada por hipersecreción de hormona paratiroidea produce un aumento en el volumen secretor gástrico, y en el ácido libre y pepsina de los contenidos estomacales, en un 60 por ciento de estos pacientes (13). A nuestro paciente le habían diagnosticado úlcera péptica duodenal 15 años atrás. Los pólipos gástricos representan un hallazgo casual y no están relacionados con el hiperparatiroidismo.

TABLA III: CARACTERISTICAS PRINCIPALES DE LA ENFERMEDAD OSEA EN HIPERPARATIROIDISMO

1. Descalcificación generalizada
 - a) pérdida densidad ósea
 - b) ausencia de lámina dura en dientes
 - c) resorción de hueso subperióstico en las falanges y metacarpianos
 - d) apariencia del cráneo: "vidrio molido" o "comido por la polilla"
2. Quistes óseos
3. Tumores pardos ("brown tumors")

Efectos óseos

Los hallazgos más impresionantes en este paciente fueron los cambios óseos, según se aprecia en las radiografías (Figs. 1 - 4) y biopsias (Fig. 5).

Lloyd (25) ha postulado que en el hiperparatiroidismo primario existen dos clases de tumores que, aunque no difieren histológicamente, son los que -- a la larga -- determinarán la aparición de enfermedad ósea o enfermedad renal. El primer grupo consiste de los pacientes con tumores más grandes, historial más breve y niveles de calcio sérico más altos; éstos son los que desarrollan enfermedad ósea. Los del segundo grupo tienen tumores más pequeños, historiales más prolongados y el nivel de calcio no es tan elevado; éstos son los que forman cálculos renales. De acuerdo con estos criterios, nuestro paciente pertenece al primer grupo. La única excepción a esta clasificación sería la hiperplasia de la llamada célula "water clear" que puede producir un tumor de gran tamaño, causando sólo enfermedad mínima. También en un número pequeño de pacientes se puede observar la presencia de cálculos renales y enfermedad ósea simultáneamente.

Puede haber un largo historial de dolores óseos que a veces se confunde con artritis o neuritis (14). En algunos casos hay historial de fracturas repetidas o deformidades óseas.

Hallazgos asociados con enfermedad ósea (Tabla III)

La enfermedad ósea que ocurre en hiperparatiroidismo primario tiene tres características principales: descalcificación generalizada, quistes óseos y los tumores pardos. La evidencia radiológica de la descalcificación generalizada incluye pérdida de densidad de todos los huesos, ausencia de lámina dura de los dientes, resorción de hueso subperióstico en las falanges y metacarpianos y la típica apariencia del cráneo

que se describe como vidrio molido ("ground glass") o comido por polilla ("moth-eaten"). El hallazgo más útil es la resorción subperióstica. En algunos casos lo único que se encuentra es descalcificación generalizada como osteoporosis.

Los quistes óseos están llenos de líquidos y rodeados de tejido fibroso; comúnmente se localizan en la corteza subperióstica de los huesos tubulares. La mayoría de los pacientes no tiene quistes. Los tumores pardos, osteoclastomas o mieloplaxomas son masas sólidas de tejido blando sin hueso calcificado (18) compuesto de células de médula ósea, osteoblastos y osteoclastos. Radiológicamente se parecen a los quistes óseos. Producen síntomas por compresión del tumor o causan fracturas patológicas.

La enfermedad ósea produce varios tipos de deformidades: encorvadura de los huesos largos y deformidades de la pelvis similares a lo que ocurre en osteomalacia (pudiendo ocasionar inhabilidad para caminar o marcha de pato (to waddle - caminar como un pato. "waddling gait" - marcha de pato o marcha oscilante pero no tambaleante). Las deformidades vertebrales no son características de la enfermedad ósea en hiperparatiroidismo primario y se encuentran en otras condiciones en que existe una disminución de hueso calcificado (16). La estatura del sujeto puede disminuir o parecer que es menor, si hay una deformidad de pecho de paloma que la simule porque el cuello parece desaparecer dentro del tórax. Los huesos en esta enfermedad son más frágiles que en la osteomalacia, de manera que es mucho más común el doblamiento que la fractura. Debido a que los quistes óseos y los tumores pardos tienen igual aspecto radiológico, no es posible distinguirlos mientras no se proceda a la ablación de las lesiones paratiroides; luego los tumores óseos desaparecen y son reemplazados por hueso, pero los quistes

permanecen aunque pueden reducirse de tamaño (16).

En las radiografías del año postoperatorio apreciamos una gran mejoría en todos los cambios mencionados anteriormente. Lo más impresionante fue la disminución en tamaño de las lesiones císticas y de los tumores pardos, junto con la formación de hueso nuevo y el progreso notable en la mineralización de todos los huesos afectados (Figs. 8, 9, 10).

Diagnóstico y Tratamiento

El diagnóstico del hiperparatiroidismo primario se hace principalmente al eliminar las otras causas de hipercalcemia (Tabla I); es decir, que es ante todo un diagnóstico de exclusión cuyos parámetros más útiles siguen siendo los niveles plasmáticos de calcio y fósforo. Los niveles de hormona paratiroidea en sangre pueden medirse mediante el inmunoensayo radioactivo, pero este método es sumamente complicado, sólo está disponible en algunos centros de investigación, y, hasta ahora, los resultados confluyen (18). En el caso discutido aquí el diagnóstico no fue problema ya que el paciente presentaba marcada hipercalcemia, hipofosfatemia y los cambios típicos radiológicos. En algunos casos se requieren pruebas más finas para aclarar el diagnóstico, como lo son las pruebas de excreción de fosfato, pruebas de tolerancia al calcio, supresión con cortisona, infusión de EDTA, infusión de glucagón y estudios que miden la velocidad máxima de la capacidad de reabsorción de glucosa a través de los túbulos renales, junto con el efecto calciúrico de infusiones de NaCl (19). Hasta tanto el radioinmunoensayo de hormona paratiroidea no esté perfeccionado y disponible comercialmente, tendremos que depender de los niveles plasmáticos de calcio y fósforo.

El examen del cuello no puso de manifiesto la presencia del adenoma, debido a su localización retrotraqueal. Es extremadamente raro, aunque no imposible, que un adenoma de paratiroides sea palpable preoperatoriamente (20). Sin embargo, en el caso de los carcinomas, éstos se pueden palpar en más del 50 por ciento de los casos (recordando siempre que la incidencia de carcinoma en hiperparatiroidismo primario es muy baja (0.5 por ciento)).

Entre varias técnicas radiológicas para identificar tejido de paratiroides hiperactivo, la más prometedora, en pacientes con calcio normal o ligeramente elevado, es el escintigrama de ^{125}I -Metionina (21). Aunque algunos investigadores han tenido éxito con esta prueba, este procedimiento es inadecuado para propósitos diagnósticos rutinarios ya que es sumamente difícil diferenciar entre la concentración de este isótopo radioactivo

en tejido de paratiroides y el tejido cercano tímico o de tiroides (22).

Existen otras enfermedades que pueden producir lesiones císticas óseas muy parecidas a la osteitis fibrosa como, por ejemplo: displasia fibrosa poliostótica (síndrome de Albright), neurofibromatosis, osteitis deformante, enfermedad de Gaucher y las xantomatosis; sin embargo, ninguna de estas condiciones tiene las alteraciones metabólicas que vemos en hiperparatiroidismo primario. Las metástasis óseas radiológicamente no deberían presentar gran dificultad ni confusión con los quistes de la osteitis fibrosa generalizada ya que las primeras lucen difusas, de naturaleza claramente destructiva, con crecimiento rápido y se nota ausencia de expansión de la corteza superadyacente (23).

El único tratamiento reconocido del hiperparatiroidismo primario es la excisión quirúrgica del tejido paratiroideo disfuncionante. Si el paciente puede tolerar la operación, debe someterse a exploración quirúrgica del cuello. Adviértase, no obstante que, en aproximadamente 10 por ciento de todos los casos, el adenoma (o adenomas) puede estar localizado en el mediastino. La exploración del mediastino conlleva riesgos de complicaciones para el paciente; por tanto, es de suma importancia que el cirujano tenga amplia experiencia en este campo. En el 1972 se presentó un caso con un adenoma gigantesco de paratiroides que estaba localizado en el mediastino y cuyo peso fue de 113 gramos (24). Los estudios radiológicos demostraron dos lesiones císticas; una, en el fémur izquierdo, y la otra, en el hueso ilíaco izquierdo. Este adenoma, a pesar de ser el segundo en tamaño que se describe en la literatura médica, no tenía cambios tan extensos como el que aquí se expone. Nuestro adenoma pesó 18 gramos mientras que el peso de la mayoría de los que se han informado en la literatura varía entre 4 y 12 gramos.

En nuestro paciente, el adenoma estaba localizado en posición paratraqueal y retrosternal, y reemplazaba a glándula inferior derecha. La mayor parte de los adenomas se encuentra en una de las dos glándulas inferiores. Esta región debe, pues, explorarse en primer lugar.

En los casos de hiperplasia de paratiroides la enfermedad se cura al extirpar quirúrgicamente de 3 a 3 1/2 de las glándulas hiperplásticas.

La evolución postoperatoria de estos pacientes con enfermedad ósea se caracteriza por una hipercalcemia que comienza lentamente luego de sacar el adenoma. Entre el tercer y octavo días, el calcio sérico baja precipitosamente a niveles que producen tetania. Esto

se debe a que, al disminuir los niveles de hormona paratiroidea, hay una disminución en la resorción ósea y aumenta la actividad osteoblástica compensatoriamente para producir matriz ósea calcificada; todo esto resulta en que grandes cantidades de calcio de la sangre se transfiere a los huesos. El tratamiento de la tetania consiste en la inyección intravenosa de gluconato de calcio suplementado con tabletas de lactato de calcio. Algunos casos con enfermedad ósea extensa requieren pequeñas dosis de vitamina D por espacio de uno a tres meses.

Cuando la fosfatasa alcalina vuelve a valores normales luego de varios meses postoperatorios, ello indica que los huesos están sanando. Tarde o temprano, en osteitis fibrosa generalizada los huesos se tornan bien densos; los quistes se quedan como quistes (es decir, no se recalifican) y los tumores pardos se reorganizan y se llenan de hueso. Las áreas radiolucientes se ponen más radiodensas que lo normal al curarse, dándole un patrón radiográfico único a la osteitis fibrosa cística curada.

Resumen

Hemos expuesto y discutido el caso de un paciente varón de mediana edad con hipercalcemia, hipofosfatemia, marcada elevación de la fosfatasa alcalina, osteitis fibrosa cística generalizada y tres tumores pardos de hueso. Al explorar quirúrgicamente el cuello del paciente se identificó y extirpó un adenoma de paratiroides de gran tamaño. Dos meses más tarde los niveles plasmáticos de calcio y fósforo se normalizaron sin terapia alguna. Al cabo de 18 meses de haberse operado, el paciente permanece completamente asintomático, su fosfatasa alcalina es normal y los cambios óseos radiológicos muestran una gran mejoría.

Reconocimiento

Queremos expresar nuestro agradecimiento a los doctores Sárraga y Axtmeyer, quienes realizaron la exploración quirúrgica del cuello, y al doctor Ascisclo Marxuach por hacer la gastroscopía. También al doctor N. Lugo Rigau por su ayuda en los aspectos radiológicos de este caso.

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BENIGN RECURRENT CHOLESTASIS

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Benign recurrent cholestasis, an entity first described in 1959 by Summerskill and Walshe (1), is one of the conditions to be considered in the differential diagnosis of recurrent jaundice. It is thought to represent a failure of intracanalicular bile secretion of unknown etiology. Characteristically, jaundice may be preceded for variable periods by intense pruritus, poor weight gain, and steatorrhea. Tests of liver function when icterus is present show the direct fraction of serum bilirubin to be predominantly elevated, as well as the serum alkaline phosphatase; in addition, there may be moderate increases in serum transaminases and plasma cholesterol. The liver biopsy during clinical jaundice shows centrilobular cholestasis and minor focal hepatocellular alterations. The benign nature of the condition is apparent from the return of hepatic function and histology to normal between attacks, even after recurring episodes for as long as forty years (1).

Of the 27 reported cases, the majority have had onset of their symptoms in childhood and adolescence (1-10). However, only two patients of pediatric age have been described to date (2, 3).

We recently had the opportunity to study a child with recurrent jaundice whose clinical picture and histologic findings were similar to those in previously reported patients with this condition. A summary of the illness is presented below, and the pertinent laboratory data are summarized in Table I.

Case Report

The patient, a Caucasian girl, was admitted to the San Juan

City Hospital on November 25, 1970, at the age of three years. Two months before admission she developed exacerbation of a chronic pruritic condition, followed a few days later by jaundice, epigastric pain, nausea and vomiting. The urine became dark and the stools light-colored. Jaundice, anorexia and pruritus had persisted until admission. There had been no fever or exposure to hepatotoxic drugs.

The past history included a normal vertex delivery after 37 weeks gestation, with a birth weight of 5 lbs. 1 oz.; the mother had preeclampsia. The neonatal course was uneventful. Since the age of 3 months she had had recurrent episodes of pruritus, associated with erythema of skin, for which she was hospitalized at 1 1/2 years. The condition was diagnosed as atopic dermatitis and she was placed on antihistaminics, hypoallergenic diet, colloidal baths, and topical hydrocortisone cream, being followed at the Allergy Clinic. She had improved somewhat from the skin condition until the present illness, as stated above. There had been fairly frequent diarrheal episodes since infancy.

There was a history of asthma on the maternal side. No family history of jaundice or liver disease.

Physical examination revealed a well developed, well nourished child with moderate jaundice and intense pruritus. The skin was dry and presented several excoriations. The liver edge was felt 2-3 cm. below the RCM and was nontender. There were no other significant findings.

Aside from the finding of choloria, routine laboratory investigations were nonrevealing, as were L-E and sickle cell preparations, ferric chloride test on urine, and VDRL. See Table I for liver function tests.

During the second week of hospitalization the patient developed a urinary tract infection and bacteremia due to *E. coli* from which she recovered with garamycin therapy. An intravenous pyclogram was negative. Cholestyramine was tried for pruritus but was for the most part refused.

An operative cholangiogram and liver biopsy were performed on December 21. The gallbladder, choledochus and hepatic ducts were normal and free of obstruction. The liver was of normal texture, slightly to moderately enlarged, and on microscopic examination showed moderate to marked cholestasis in the biliary canaliculi, with only minimal alteration of the lobular architecture; the periportal spaces were slightly widened, with mild ductal proliferation and round cell infiltration. Occasional foci of inflammatory cells were seen in the parenchyma. The findings were thought to be consistent with a prolonged cholangitic phase of hepatitis.

When discharged on December 24 the patient still had

TABLE I: RESULTS OF LIVER FUNCTION STUDIES

Date	Serum bilirubin	Serum alkaline phosphatase	SGOT	SGPT	BSP reten- tion	Pro- thrombin time	Serum albu- min	Serum globu- lin	Thymol turbi- dity
	mg/100ml	mu/ml (auto- analyzer method- normal adult range 30-85)	units/ 100 ml	units/ 100 ml	% at 45 min.	% of normal	gm/ 100 ml	gm/ 100 ml	units
1st episode of jaundice									
Nov.12/70	T 9.96 D 6.2		60	42					
Nov. 27/70	T 15.6 D 10.2								
Dec. 1/71	T 15.6 D 6.47	over 184	20	17		78	4.3	4.2	
Dec.11/71	T 14.4 D 8.65	over 192	55	28					
Dec.15/71					30				
Dec.18/71	T 9.6 D 4.98								
2nd episode of jaundice									
April 18/73	T 1.6 D 1.1		150	over 126					
April 26/73						82			0.6
April 30/73	T 4.6 D 2.3	over 400	120				3.9	3.6	
May 4/73			55	25			3.9	3.9	
May 10/73	T 0.8 D 0.1								
May 14/73 (post-jaundice)					0.75				
May 21/73						100			

slight icterus and pruritus. At follow-up on February 5, 1971 she was completely anicteric and pruritus was insignificant.

She continued in her usual state of health, with periods of anorexia and occasional epigastric pain, until early April, 1973, when she developed intense pruritus unresponsive to symptomatic treatment. Five days later light-colored stools and dark urine were noted, followed soon afterwards by scleral icterus. She was hospitalized on April 25, about two weeks after onset of icterus. She presented mild scleral jaundice and severe itching. Other physical findings were similar to those on first admission. Phenobarbital in large doses (8mgm/k/day) brought some relief from the pruritus.

Open liver biopsy, postponed twice for reasons beyond our control, was performed on June 19, after subsidence of icterus. It revealed a normal-appearing liver, except for a slightly increased yellowish color, and a normal gallbladder. Microscopic examination of the liver showed a mild degree of fatty change but was otherwise within normal limits.

The patient is doing well at present on no medications, having been free of pruritus since the disappearance of jaundice. The SMA 12 profile is essentially normal.

Discussion

Besides the present case, 27 patients with benign, recurrent cholestasis have been reported in the literature (1-10). Though the great majority have been adults, most of them had onset of their condition in childhood or adolescence. There are three sets of brothers among the affected patients (4, 5), but there is usually no family history of jaundice, and thus the evidence for a genetic defect is not conclusive.

The frequency of the attacks has varied considerably, from seven episodes in forty years (1) to ten in five years (6). On the average, jaundice occurs more frequently than every other year. The duration of attacks is also quite variable, ranging from two weeks (6) to eighteen months (1), with an average of three to four months. Considerable variation occurs in individual patients.

The symptoms during attacks have presented certain similarities between patients. Itching is invariably the first symptom, preceding the onset of jaundice for variable periods, at times for years. In almost all patients it has been quite troublesome at the height of the attack. Fatigue is prominent, as are anorexia, increased nervous tension, and weight loss. Nausea and abdominal pain, mainly in the RUQ, have been described in at least half the patients, and vomiting in a few. Dark urine and light-colored stools are constantly present with the onset of jaundice. A few patients have had cutaneous or mucosal bleeding.

Abdominal tenderness, greatest over the RUQ, has been common, and a few patients have had hepatome-

galy. Excoriations are frequently seen. Splenomegaly is absent.

Liver function tests have invariably shown cholestatic features. Increases in serum bilirubin are predominantly of the direct fraction, and values as high as 40 mg. per 100 ml. have been recorded (1). Serum alkaline phosphatase is always elevated, reaching in almost all cases values greater than twice normal. Serum protein values have been within the normal range; in some patients alpha 2 and/or beta globulin fractions have been high. Serum cholesterol has been moderately increased in a few patients. Flocculation tests have been consistently negative. Serum transaminases have been slightly to moderately elevated in a few patients. BSP excretion is impaired during the attacks, the abnormal retention sometimes antedating the onset of jaundice for 2-3 weeks. A normal excretion of BSP is present during asymptomatic periods.

Oral or intravenous cholangiography reveals a normal biliary tree in the absence of jaundice. Surgical cholangiography has been performed in some patients so as to exclude extrahepatic obstruction (1, 4, 7).

Steatorrhea has been found in all patients in whom fecal fat was measured, probably accounting to a large extent for the hypoprothrombinemia and the weight loss seen in some patients.

Liver biopsy specimens examined by light microscopy during periods of jaundice show stasis of bile in the intralobular bile canaliculi and round cell infiltration in the portal tracts, which may be slightly widened (2, 5, 7). All of these histologic findings were demonstrable in our patient. Focal parenchymal necrosis has been found infrequently but was not present in our patient. Electron microscopic studies during episodes of jaundice show dilatation of the bile canaliculi, with blunting and shortening of the microvilli of the canalicular membrane (6, 8, 11). In addition, numerous vesicles of variable size containing a non-lipid material are present intracellularly; they disappear after recovery from jaundice (6).

As shown in our patient, in whom a liver biopsy obtained after jaundice had subsided showed no abnormalities, liver histology is essentially normal during the noncholestatic phase of the disease, even after several years of repeated episodes of jaundice.

The etiology of this condition is obscure. The fact that the majority of patients have an early onset of symptoms would suggest a congenital defect. The ultra-microscopic liver findings are similar to those seen in man and in rats after norethandrofone administration and before onset of cholestasis (12). If these changes

are primary in idiopathic recurrent cholestasis, they may be responsible for a defective bile secretory mechanism. This could lead to the formation of bile with altered physicochemical properties predisposing to stasis, with resulting canalicular dilatation. Prolonged contact with the bile in the canaliculi may further damage the canalicular membrane (7).

The syndrome must be differentiated from other causes of recurrent jaundice. The predominant elevation of the direct bilirubin fraction permits differentiation from hyperbilirubinemias of the Crigler-Najar or Gilbert type. Extrahepatic obstruction is excluded by appropriate roentgenologic or surgical studies. Differentiation from chronic idiopathic jaundice of the Dubin-Johnson type (13), a rare condition in which there is defective excretion of conjugated bilirubin, may be more difficult. However, patients with the Dubin-Johnson syndrome have no pruritus, often have a positive family history, present only minimal elevations, if any, of the serum alkaline phosphatase, and are more constantly, though as a rule not so deeply jaundiced. About half the cases have abnormal flocculation tests. Liver biopsy shows a characteristic lipochrome pigment in the hepatic cells. Patients with the Rotor syndrome (14) have similar clinical features to those with chronic idiopathic jaundice but their liver cells lack lipochrome pigment. In neither of these two conditions has there been histologic evidence of bile stasis in the liver. One final entity from which benign recurrent cholestasis must be differentiated and with which it appears to be related is progressive familial intrahepatic cholestasis (15). In this condition, thought to represent an intermediate form between benign recurrent cholestasis and intrahepatic biliary atresia, there is also early onset of fluctuating jaundice, pruritus, and malabsorption. The symptomatology is, however, more severe and the clinical course is progressive. Liver histology shows bile stasis and hypoplasia of the interlobular bile ducts.

The treatment of benign recurrent cholestasis is only supportive. Deficiencies of fat-soluble vitamins, if present, are corrected. Cholestyramine (a bile salt-binding resin) and, more recently, cyproheptadine (3) (a serotonin and histamine antagonist) and phenobarbital (16, 17) have been employed for the relief of pruritus. Corticosteroid therapy in patients with prolonged jaundice has given variable results.

Summary

The patient reported, a girl, experienced two episodes of jaundice, one at age three and a second one 2 1/2

years later. Clinical, laboratory, and histologic findings suggest an intermittent cholestatic process. Absence of any identifiable causative factor and a return to clinical and histologic normalcy after disappearance of icterus point to the diagnosis of benign recurrent cholestasis. The salient features of this disorder, as described in published reports, are discussed in detail, with emphasis on the early onset of jaundice in the majority of patients. Benign recurrent cholestasis is of importance in the differential diagnosis of obstructive jaundice, especially so in childhood.

Resumen

Se presenta el caso de una niña que sufrió dos episodios de ictericia, uno a la edad de tres años y el segundo 2 1/2 años más tarde. Los hallazgos clínicos, de laboratorio e histológicos sugieren un proceso colestático intermitente. La ausencia de factores etiológicos identificables y el retorno a la normalidad clínica e histológica luego de desaparecida la ictericia, sugieren el diagnóstico de colestasis benigna recurrente. Se describe en detalle las características sobresalientes de esta condición según la literatura médica, enfatizándose el comienzo precoz de la ictericia en la mayor parte de los casos. La colestasis recurrente benigna es de importancia en el diagnóstico diferencial de ictericia obstructiva, sobre todo en la niñez.

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UN TURNITO DE OCHO HORAS EN LA SALA DE EMERGENCIA

4:00 P. M.

Llegamos al pasillo de entrada. ¡Da gusto ver el gran número de pacientes que se atienden en esta Sala! Los vemos en camillas, sillas de ruedas, de pie, sentados, eñangotados. Los acompañan familiares, vecinos, noveleros, toda una gama de personas aparentemente interesadas en la salud de estos enfermos. Vemos mujeres que lloran, histéricos que gritan, niños que gimen, viejecitos con cáncer terminal que agonizan, hombres vomitando, borrachos molestando, señoras que insultan. . .

¡Qué experiencia fabulosa el trayecto desde la entrada hasta la Sala de Exámenes! Por el camino nos codeamos con todos estos buenos ciudadanos conscientes del sacrificio y de las limitaciones del médico. Nos da ánimo ser recibidos con frases tan simpáticas como: — Doctor, ¿dónde están los análisis de mi tío? —; —Doctor, ¿cuándo bajará el ginecólogo? —; —Doctor, ya hacen dos horas que me sacaron las placas y todavía no me han dado los resultados —; —Oiga mister —, ¿Cuándo me van a atender?; o mejor aún: Oye brother esto está del mero, si no me atienden a mi jeva primero voy a crear un trouble. —

4:30 P. M.

Hemos logrado llegar a la Sala de Exámenes tras haber recibido un codazo, tropezar con camillas, mover una silla de ruedas del medio, haber recibido el vómito de una gastritis en el zapato derecho (¡pobrecito par de zapatos que acababa de comprar!) El bolsillo izquierdo de nuestra bata lo desgarró la sombrilla de una venerable ancianita que se había estacionado en el umbral de la puerta de entrada. ¿Será ésta una experiencia comparable a la de una carrera de obstáculos donde al final espera un gran premio? . . . Nos esperan de nueve a doce casos para reevaluar; nos esperan los historiales de doce o quince pacientes que aún no han sido vistos. ¡Ag! Nos espera una gran guardia sin un momento de aburrimiento!

6:20 P. M.

Admitimos al piso de medicina un diabético en acidosis; enviamos a su casa un dolor en el pecho que parecía ser una costocondritis; redujimos varias fracturas; curamos un hemangioma maligno en la cara interior del carrillo derecho que resultó ser un hematoma después de una mordida que se dió el propio paciente mientras comía; le aguantamos la lata a un borracho que le da dolor epigástrico únicamente cuando ingiere bebidas alcohólicas.

6:27 P. M.

Llegamos al comedor. Nos tardamos un poco: Ya habían recogido la comida; nos conformamos con una cola y un helado. Pero, hay esperanzas, permanecemos gozosos, quizás como a las once de la noche podamos conseguir a alguien que nos compre y nos traiga de la calle algún sandwich recalentado.

7:15 P. M.

Apresuradamente atendemos a más personas. Estamos muy preocupados: los dos pacientes que siguen están seriamente enfermos. Ataja una sorpresa . . . Uno de nuestros queridos empleados exige atención para su nene inmediatamente. El nene tiene un catarrito y no trae hoja de referido, pero el padre tiene mucha prisa porque quiere llegar temprano al cine . . . Aumentan los niveles de adrenalina, sube la presión, se acelera el pulso, se mancha más la camisa con sudor. En fin, que la Sala de Emergencia es un escaparate de emociones.

8:30 P. M.

A lo lejos el sonido de una sirena se acerca vertiginosamente. Al arribar un accidentado grave, nueve expectadores torpemente trasladan al enfermo desde la ambulancia a la camilla. Tras recibir varios codazos, tropezar con varias camillas, mover una silla de ruedas del medio, resbalar y casi caerse con el vómito de la gastritis y chocar con la venerable ancianita que aún se encontraba en el medio, el camillero logra entrar con el accidentado en la Sala de Enyesado. ¡Qué excitación y que actividad! ¡Da gusto ver a nuestro personal en acción! Allí encontramos dos auxiliares, tres enfermeras prácticas, una graduada, dos médicos, un policía, el guardián de la entrada, el chofer de la ambulancia, tres técnicos, el primo del herido y dos pacientes que cansados de esperar en el pasillo entraron para brindar ayuda. (Al margen del evento se le coloca una férula a un niño que los anticipaba a todos).

¡Ordenes! Cuerpos que chocan. Varias personas toman la presión arterial; otras, cogiendo una vena. Una auxiliar pica los pantalones, otra pica la camisa. El médico resbala en la sangre del piso y tumba la botella de suero. Se rompe. Vuelan los algodones y las gasas, la bandeja de traqueotomía no aparece; la bandeja de intubación está muy bien guardada bajo una llave, que ahora no se encuentra. . . en fin, todo es actividad, una verdadera colmena. Simultáneamente se escuchan las altas notas del lamento de las féminas familiares del accidentado y hace su aparición el hermano del herido quien exige que vengan médicos especialistas en vez de los indignos medicuchos que están tratando de salvar la vida a su hermano.

Mientras tanto en la Sala de Exámenes, permanecemos otros médicos pendientes de los demás enfermos: — Miss, por favor, llame al próximo ... Miss . . . Miiiiis . . . MIIIIIS — finalmente, nos levantamos resignados, con un expediente en la mano, salimos al pasillo y decimos — Don Juan X, favor de pasar a la Sala para examinarlo . . . Aumentan los niveles de adrenalina, sube la tensión arterial, el pulso acelera, el sudor mancha más la camisa.

9:00 P. M.

En la Sala de Exámenes examinamos a una joven señora con fiebre; una y otra vez volvemos a correr la cortina que se abre reiteradamente con el aire o al paso de algún empleado diligente; con demasiada facilidad escuchamos los comentarios de las enfermeras al otro lado; nos aturde el ruido

monótono del abanico; nos distrae el interrogatorio que a viva voz hace un compañero a un enfermo sordo: fallamos profesionalmente al auscultar y no poder captar el soplo grado II/VI de la joven señora que aquejaba una carditis reumática aguda.

Súbitamente se abre la cortina y aparece un simpático ciudadano. . . —Doctor, a ver si me da permiso pa' que me llene un récord que me duele una muela y no traje referido. . .

10:00 P. M.

Sólo queda una cama vacía en uno de los pisos y está reservada para una verdadera emergencia. La Sala de Mujeres del Area de Emergencia está llena con doce pacientes y la de hombres con ocho. En el pasillo hay tres pacientes en camilla y se quejan. Uno de ellos vomita. ¡Caramba! . . . ¡No podía faltar! Llega uno de nuestros altos empleados con la abuela de la tía de la hija de un primo segundo de su esposa. La abuela tiene el flú y se siente malita. Ellos quisieran hospitalizarla para ponerle unos sueritos y fortalecerla. Opinamos que puede muy bien seguir el tratamiento en la casa. Cedimos a la presión y ordenamos un electrocardiograma innecesario, una hemoglobina y un conteo de glóbulos blancos; todo esto después de obtener innecesariamente una consulta quirúrgica y otra de Medicina Interna. Mientras tanto se cruzan varias llamadas telefónicas, con múltiples quejas a varios niveles jerárquicos de la institución. Al final, y a nuestras espaldas, se admite a la viejecita. Claro, se trata de la abuela de la tía de la hija de un primo segundo de la esposa de Fulano, nada menos que Doña Fulana de Tal. Diez minutos más tarde llega a la Sala un paciente, un paciente aún más gravemente enfermo que los tres del pasillo que no pudimos admitir. La cama que quedaba, la única de todo el hospital, alberga la viejecita. Permaneceremos con el paciente, en nuestro turno de ocho horas, impotente de atenderlo efectivamente a él y a otros enfermos. . . MAS ADRENALINA.

12:00 M.N.

Se acaba el turno de ocho horas. Nos vamos cansados, sudados, hambrientos, los pies adoloridos. Nos vamos deprimidos por la preocupación de que la gran cantidad de pacientes y la falta de facilidades para trabajar, nos lleve a cometer más de una equivocación evitable en mejores circunstancias. ¡Y a la cama a soñar! . . . a soñar con una Sala de Emergencia que cuente con:

- 1) un personal médico y paramédico adecuado en número y entrenamiento;
- 2) una reserva de medicamentos variados de emergencia que se reponga continuamente;
- 3) un equipo de resucitación apropiado;
- 4) un sistema eficiente para la evaluación de los pacientes referidos;
- 5) una planta física adecuada en tamaño y facilidades, diseñada con la ayuda de un médico que haya vivido en este infierno y conozca bien sus necesidades;
- 6) la cooperación absoluta y constante de los especialistas de la Institución.

Pero, los sueños . . . sueños son.

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ALCOHOL Y ALCOHOLISMO

Clásicamente el alcoholismo ha sido considerado un problema socio-moral incurable. Aquellos individuos desafortunados que "caían en el vicio" constituían parias de la sociedad y eran eliminados del círculo socio-familiar.

En el 1944, el Consejo Nacional en Alcoholismo fue fundado en una atmósfera pública de ignorancia total. El alcohólico era considerado responsable en su propia condición. En el 1956 la Asociación Médica Americana identificó el alcoholismo como una enfermedad tratable como un problema médico.

Aún a pesar de la posición visionaria de la AMA los hospitales generales y psiquiátricos prácticamente se niegan a tratar a esos despojados como seres enfermos.

En el 1960, en el Estado de Illinois, la división de Alcoholismo bajo la dirección del Dr. Nelson Bradley, inició el primer programa para el tratamiento del alcoholismo en el "PEORIA STATE HOSPITAL", y luego en el 1963 el autor, junto con el Sr. Robert Clark, iniciaron un programa piloto en el "ELGIN STATE HOSPITAL" con 30 camas. El programa de tratamiento fue variando para acomodarnos a las necesidades de los pacientes; llegando al extremo que en el 1966 teníamos un programa de 156 camas, de las cuales 15 estaban destinadas a un programa de detoxificación; además de un programa alterno de motivación y un programa de tratamiento de 30 días de duración.

En el programa de tratamiento se usaban una serie de conferencias sobre el alcoholismo y sus consecuencias socio-económicas y morales, utilizando recursos de la comunidad. Incluía terapia ocupacional y terapia industrial siguiendo la modificación de Medfield; y psicoterapia grupal e individual de acuerdo a las necesidades. Este programa estaba coordinado con un grupo de alcohólicos anónimos quienes celebraban reuniones cerradas en el Hospital. Hemos de agregar que, aunque no perfecto, los resultados fueron halagadores con una remisión de un 72 por ciento en seguimiento por un período de 2 años. La remisión era bastante aproximada debido a que en todos los programas informábamos las admisiones al Centro de Data y Computadoras en Springfield, Illinois, quien localizaba las re-admisiones en otros hospitales.

Otros programas en el país han usado Disulfiran (Antabuse) descubierto en el 1948, por dos investigadores daneses Jesus Hald y Erik Jacobsen. Sin embargo, su uso no produjo los resultados esperados, por lo cual esta modalidad está casi abandonada.

En el 1965 Anne Taylor de California, utilizó con cierto éxito Metronidazole (FLAGYL). Según ella, producía una reacción vasodilatadora menor que el disulfiram y además disminuía "la sed de alcohol" (alcohol craving) del individuo. Su uso tampoco se generalizó.

Desde el 1970, cuando el Presidente de los Estados Unidos firmó la ley para estimular la prevención del alcoholismo, (Comprehensive alcohol abuse and alcoholism prevention) se han hecho progresos sustanciales.

En los últimos años el alcoholismo ha aumentado en una forma alarmante y ha alcanzado el tercer lugar como problema de salud, superado por las enfermedades cardíacas y el cáncer. Recientemente el Dr. Morris E. Chafetz, Director del Instituto Nacional del Alcoholismo y abuso del alcohol (NIAAA) ha indicado que existe nueva información que relaciona el alcoholismo con las enfermedades cardíacas y el cáncer.

Pero, no tan sólo podemos ver el alcoholismo desde ese punto de vista, sino, que es necesario reconocer que el costo a la industria, el gobierno y al comercio, alcanza cifras astronómicas de más de 15 billones anuales en los Estados Unidos.

Desgraciadamente, para aquellos individuos que sufren de tan "abominable enfermedad", son muy pocos los sitios a los cuales ellos pueden recurrir en busca de su salud. Peor aún, son muy pocas las modalidades terapéuticas que se le ofrecen para aliviarlos.

El Consejo Nacional en Alcoholismo recomienda que todo programa que se establezca para el tratamiento del alcoholismo debe contener:

1. Centro de detección y de tratamientos separados con personal específicamente entrenado para tratamiento de alcoholismo.
2. Que estas facilidades sean acreditadas, para establecer ciertos niveles de calidad.
3. Que los miembros del personal de tratamiento sean acreditados a través de una certificación nacional de ambos tipos de consejeros (profesional y para-profesional).

Es de esperarse que se ofrezcan los siguientes servicios:

Servicios de emergencia y detoxificación por 24 horas.

Hospitalización en una área especialmente designada para uso exclusivo de alcohólicos, ya sea en un Hospital general, psiquiátrico o una facilidad independiente, por un período aproximado de unos 14 días, seguidos por un cuidado intermedio en un "refugio" por un período no mayor de 30 días y con un tratamiento designado para el alcoholismo como condición primaria.

Nosotros hemos tenido la oportunidad de usar modificación de la conducta (Behavior Modification) en su modalidad de aversión con relajación con resultados halagadores. Es mi firme creencia que a través de la terapia de conducta sería más factible bregar con los alcohólicos debido a que de esa forma no tenemos que entrar en consideraciones psicodinámicas y el personal podría bregar más efectivamente y con menos riesgos. Al mismo tiempo, tal vez sería beneficioso un acercamiento holístico (Lazarus) en el cual el individuo pueda verse a sí mismo como un ser humano, que puede alcanzar su más preciada meta.

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STATUS EPILEPTICUS

Colaboración de: *Eduardo Mirabal Font, MD. Jefe sección Neurología Pediátrica, Escuela de Medicina, Universidad de Puerto Rico y Asesor en Neurología, Sociedad Puertorriqueña de Ayuda al Paciente con Epilepsia.*

La epilepsia es más común en niños que en adultos. La mayor parte de los niños que padecen de epilepsia, que no están bajo tratamiento, tienen episodios recurrentes de convulsiones, que pueden ser de varios tipos. Usualmente la convulsión, aún sin tratamiento, termina espontáneamente. Puede o no haber un período de estupor postictal, pero después de éste el niño recupera su conocimiento y funciona normalmente. Si no hay complicaciones, como por ejemplo aspiración, es muy raro que un paciente muera durante una convulsión epiléptica, o que sufra daño cerebral significativo.

Existe, sin embargo, una condición especial en pacientes epilépticos, que puede ser sumamente seria y que conlleva una mortalidad que puede llegar hasta un 50 por ciento. Esta condición se conoce con el nombre de Status epilepticus, y se puede reconocer clínicamente cuando el paciente tiene una serie de convulsiones *una detrás de la otra* sin recuperar el conocimiento entre cada convulsión. Existen dos tipos de Status epilepticus. (1) el grand mal status y (2) el petit mal status. El primer tipo es mucho más común, y mucho más serio que el segundo.

STATUS EPILEPTICUS - TIPO GRAND MAL

Esta condición consiste en una serie de convulsiones generalizadas, de duración variable, donde ocurren movimientos tónicos y/o movimientos clónicos de todas las extremidades y tronco. Estos movimientos terminan después de varios minutos y el paciente queda en un estupor profundo y antes de recuperar de este estupor tiene otra convulsión generalizada, que a su vez es seguida de otro período de estupor, que a su vez es seguido de otra convulsión, etc. Si la condición no se maneja adecuadamente, el pa-

ciente puede continuar con convulsiones repetidas por 12, 24, 36 horas o más. Mientras más tiempo dure el status más alta es la mortalidad.

La causa más común de status epilepticus es la discontinuación súbita de tratamiento con drogas anticonvulsivantes. Cuando un paciente epiléptico, recibiendo dosis terapéuticas de drogas anticonvulsivantes discontinúa este tratamiento súbitamente, se tarda de 3 a 5 días en bajar su nivel sanguíneo de droga y puede entrar en status epilepticus.

La manera más efectiva de prevenir el status epilepticus consiste en asegurarse que el paciente epiléptico nunca discontinúa las drogas anticonvulsivantes súbitamente. Además, se previene el status epilepticus en pacientes no controlados, ofreciéndoles a éstos el tratamiento adecuado para el control de la convulsión inicial. El tratamiento del Status Epilepticus consiste en:

1. Asegurarse que las vías respiratorias altas están patentes y la administración de oxígeno.

2. Asegurarse que el paciente realmente sufre de una convulsión epiléptica de origen cortical, y no de episodios de decerebración asociados con aumento en presión intracraniana y compresión del tallo cerebral. Esta diferenciación se hace a base de la naturaleza de los movimientos convulsivos, el estado de las pupilas, el examen del fondo de ojo y la presencia de los movimientos reflejos de los ojos.

3. El tratamiento adecuado con drogas anticonvulsivantes, que consiste de la administración de fenobarbital por vía intramuscular endovenosa en una dosis de aproximadamente 10 mgm. por kilo de peso. Esta inyección tiene el propósito principal de evitar que ocurra otra convulsión después que la convulsión actual termine. Si la convulsión inicial no termina 5 minutos después de esta inyección, se le debe administrar al paciente de 2-5 mgm. de diazepam (Valium) por vía endovenosa.

4. Si la convulsión no termina con este tratamiento, o si ocurre otra convulsión después de ésta, el paciente se debe considerar seriamente enfermo, se debe hospita-

lizar y se debe empezar una infusión endovenosa de una solución electrolítica. Se debe sospechar también que el paciente tiene una complicación o una condición no epiléptica, como por ejemplo:

- a) Meningitis
- b) Hiponatremia, a base de una administración excesiva de agua.
- c) Intoxicación por drogas, plomo, etc.
- d) Trombosis venosas de los senos o venas corticales.

5. Si las convulsiones continúan es muy importante no administrar barbitúricos en exceso (no se debe sobrepasar la dosis de 15 mgn/kg. el primer día, ni la dosis de 7 mgn/kg. en días sub-siguientes). Después de llegar a estas dosis de barbitúricos es preferible usar paraldehído por vía rectal o endovenosa en un suero que baje lentamente.

6. Si se identifica alguna de las complicaciones arriba enumeradas, éstas deben ser tratadas adecuadamente.

7. Después de terminado el Status, el paciente debe recibir dosis de mantenimiento correspondiente a su tipo de epilepsia.

STATUS EPILEPTICUS - TIPO PETIT MAL

Esta condición es mucho más rara y bizarra que el grand mal status. Consiste de un estado confusional que interfiere con el comportamiento apropiado del paciente. El paciente parece estar consciente "a medias". Puede caminar y usar las manos de una manera automática. Puede contestar algunas preguntas con monosílabos, pero no puede llevar a cabo tareas mentales de la más ligera complejidad. Este estado puede durar varias horas y hasta dos o tres días y frecuentemente es confundido por reacciones de conversión o histeria por el médico que nunca lo ha visto.

El diagnóstico se confirma por un electroencefalograma que es marcadamente anormal y el status se puede terminar con una inyección endovenosa de diazepam (Valium) en una dosis de 2-5 mgn. Después de terminado el status, el paciente debe recibir dosis de mantenimiento de Zarontin o Tridione.

El pronóstico del paciente con status epilepticus, si sobrevive o no, depende en gran parte del manejo por el médico o los médicos que son llamados a atender el paciente. Es importante que todos nuestros médicos acepten este reto.

N O T I C I A S

NATIONAL HEALTH INSURANCE

President Ford has indicated that the national health insurance plan he will submit to the next Congress will be similar to former President Nixon's Comprehensive Health Insurance Plan (CHIP) which was based on mandatory coverage of workers by employers through the existing private health insurance system. In a legislative message to "lame-duck" Congress, Ford made no pitch for action in the present Congress.

Meanwhile, HEW Secretary Caspar Weinberger has been meeting with principal medical and health care providers, including the AMA, in an effort to arrive at some sort of consensus with respect to a NHI bill.

The AMA has provided the Secretary and other providers with a 14-point set of principles that it believes essential in any NHI plan. Approved by the AMA Board of Trustees, these NHI guidelines are:

- 1) minimum federal involvement in administration of any national health insurance program.
- 2) state jurisdiction with respect to licensure and certification of professional health personnel and regulation of insurance.
- 3) minimum federal dollars in financing of programs for comprehensive coverage at least possible cost.
- 4) funding through federal, state and private funds including (a) employer-employee contributions for private health insurance and (b) an individual tax credit as applied for full health care protection.
- 5) no added Social Security tax for financing.
- 6) no administration by Social Security.
- 7) cost sharing by participating individuals and families and a subsidy for the indigent scaled according to income.
- 8) use of private insurance on risk and underwriting basis.
- 9) comprehensive coverage, basic and catastrophic, for the entire population.
- 10) pluralism in methods of health care delivery.
- 11) cost controls as appropriate.
- 12) quality controls as appropriate.
- 13) continuity of benefits.
- 14) coordination of benefits.

DRUGS

The Government has issued its long-promised regulations to encourage purchase of lower priced drugs for the Medicare and Medicaid programs, and introduced a new wrinkle--a drug price information bulletin to be sent to all physicians.

Major impact of the regulations--if finally carried out--would be on physicians and pharmacies dealing with Medicaid patients and their outpatient drug benefits. The inpatient Medicare program involving hospital drug purchase would be less affected. However, the long-range implications of the HEW Department's plan in event of a National Health Insurance Plan are significant. HEW would clearly attempt to extend something like the Medicaid proposal for outpatient drugs to any national program that reimbursed such costs.

The new regulations are aimed at reimbursement for the lowest price drugs available where the drugs are chemically identical. The limit is termed "maximum allowable cost", or MAC. Physicians prescribing for Medicaid patients would have to prescribe the designated drug or certify the necessity for prescribing a more expensive drug and give reasons.

HEW gave interested parties 60 days to comment on the proposals. After that, and assuming the final regulations are little changed, the only possibilities for blocking the drug pricing plan would be court action or legislation. A Food and Drug Administration spokesman told a news conference the HEW Department has "ample legislative authority" to promulgate such regulations. He estimated the plan would save federal and state governments at least \$89 million a year when fully implemented in several years.

Pharmacists would be limited to their actual acquisition cost plus a dispensing fee. According to HEW, pharmacists in many state Medicaid programs are presently reimbursed on the basis of a published wholesale price "which may be more than 15 percent higher than the actual cost of acquisition."

Under the proposal, HEW would concentrate on the 200 most widely-used drugs, some 12 to 20, if all goes according to plan, would be placed on the MAC list this summer.

The reimbursement plan would have the greatest impact on drugs that aren't presently under patent protection and therefore come from several sources, about 40 of the top 200 fall in this category.

A Pharmaceutical Reimbursement Board would be set up at HEW to determine the maximum allowable costs. FDA would have to establish bio-equivalence to its satisfaction. An advisory committee would have a shot at the data and the recommendations before they were proposed formally.

The Pharmaceutical Manufacturers Association (PMA) said that though it recognizes the need to hold down federal spending, it believes many questions and problems are involved in the proposals. One is the professional role of the pharmacist and the physician in the prescribing process, according to the PMA. Another worry is the possible discouragement of innovation and improvement of drugs, PMA said.

LIFESAVING PARTNERSHIP... AGAINST CANCER QUACKERY

The anguish associated with cancer is compounded by the cancer quack. False hopes — harmful delays — shattering expenses — deceptive diagnoses — loss of life — these are hazards facing the cancer patient desperate enough to seek a cancer quack.

The problem: how to divert the patient from this tragic encounter.

As medical guide, family counselor, trusted friend — you, doctor, play a major role in the fight against cancer quackery.

We are here to “partner” you.

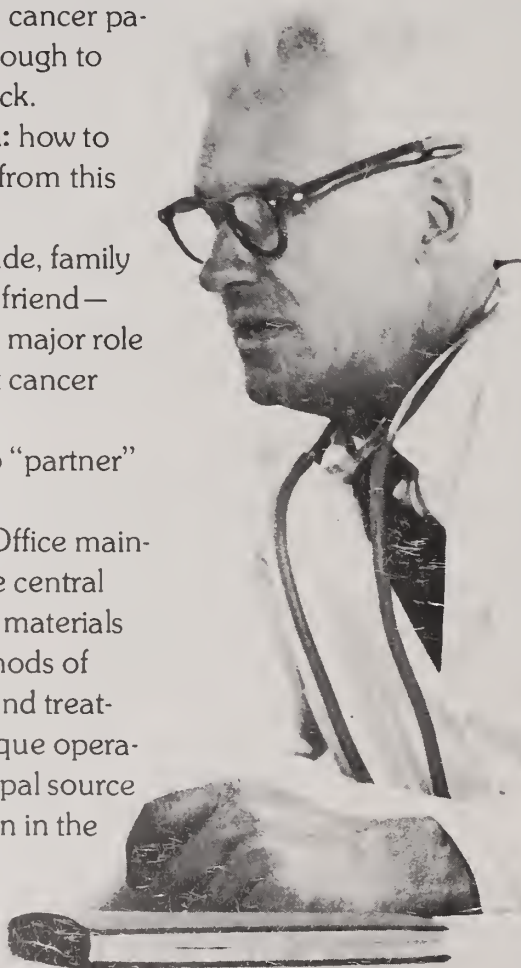
Our National Office maintains an up-to-date central clearing house for materials on unproven methods of cancer diagnosis and treatment. This is a unique operation and the principal source of such information in the

country. Its services are widely used. Hundreds of inquiries are received and answered from all segments of the community, from coast to coast.

To trigger grass-roots action, we have formulated a model State Cancer Remedy Act designed to control the promotion and sale of unproven methods of cancer management. This has already inspired nine states to legislate against cancer quackery — with active support from the medical community. Copies of the model act, as well as copies of the laws in effect, are available in our National and Division offices.

In these actions against cancer quackery, as in all our efforts against cancer, ours is a lifesaving partnership.

American
Cancer
Society



THIS SPACE CONTRIBUTED BY THE PUBLISHER

**FOR
THE MILK
INTOLERANT
INFANT**

Whenever the symptoms diarrhea, colic, vomiting, rhinorrhea, anorexia or eczema are evident, consider milk intolerance—then consider Neo-Mull-Soy.[®]

Protein, fat and carbohydrate levels approximating those of human milk.

Methionine-supplemented to enhance protein efficiency.

Low renal solute load.

No corn sugars.

Comparable to cow's milk formulas in supporting growth and development.

**ALL THIS...
AND MILK-WHITE,
TOO.**



NEO-MULL-SOY[®]

Soy Protein Isolate Formula

SYNTEX

SYNTEX LABORATORIES, INC.
NUTRITIONAL PRODUCTS DIV.
PALO ALTO, CALIFORNIA 94304

Sign of a cold* sufferer

Time for Ornade®

Each Spansule® capsule contains 8 mg. Teldrin® (brand of chlorpheniramine maleate); 50 mg. phenylpropanolamine hydrochloride; 2.5 mg. isopropamide, as the iodide.

Fast relief of upper respiratory congestion and hypersecretion* with convenient b.i.d. dosage.

Before prescribing, see complete prescribing information in SK&F literature or PDR. The following is a brief summary.

*** Indications**

Based on a review of this drug by the National Academy of Sciences — National Research Council and/or other information, FDA has classified the indications as follows:

Possibly effective: For relief of upper respiratory tract congestion and hypersecretion associated with vasomotor rhinitis and allergic rhinitis, and for prolonged relief.

Lacking in substantial evidence of effectiveness: For relief of nasal congestion and hypersecretion associated with the common cold and sinusitis.

Final classification of the less-than-effective indications requires further investigation.

Contraindications: Hypersensitivity to any component; concurrent MAO inhibitor therapy; severe hypertension; bronchial asthma; coronary artery disease; stenosing peptic ulcer; pyloroduodenal or bladder neck obstruction. Children under 6.

Warnings: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Warn patients of possible additive effects with alcohol and other CNS depressants.

Usage in Pregnancy: In pregnancy, nursing mothers and women who might bear children, weigh potential benefits against hazards. Inhibition of lactation may occur.

Effect on PBI Determination and I^{131} Uptake: Isopropamide iodide may alter PBI test results and will suppress I^{131} uptake. Substitute thyroid tests unaffected by exogenous iodides.

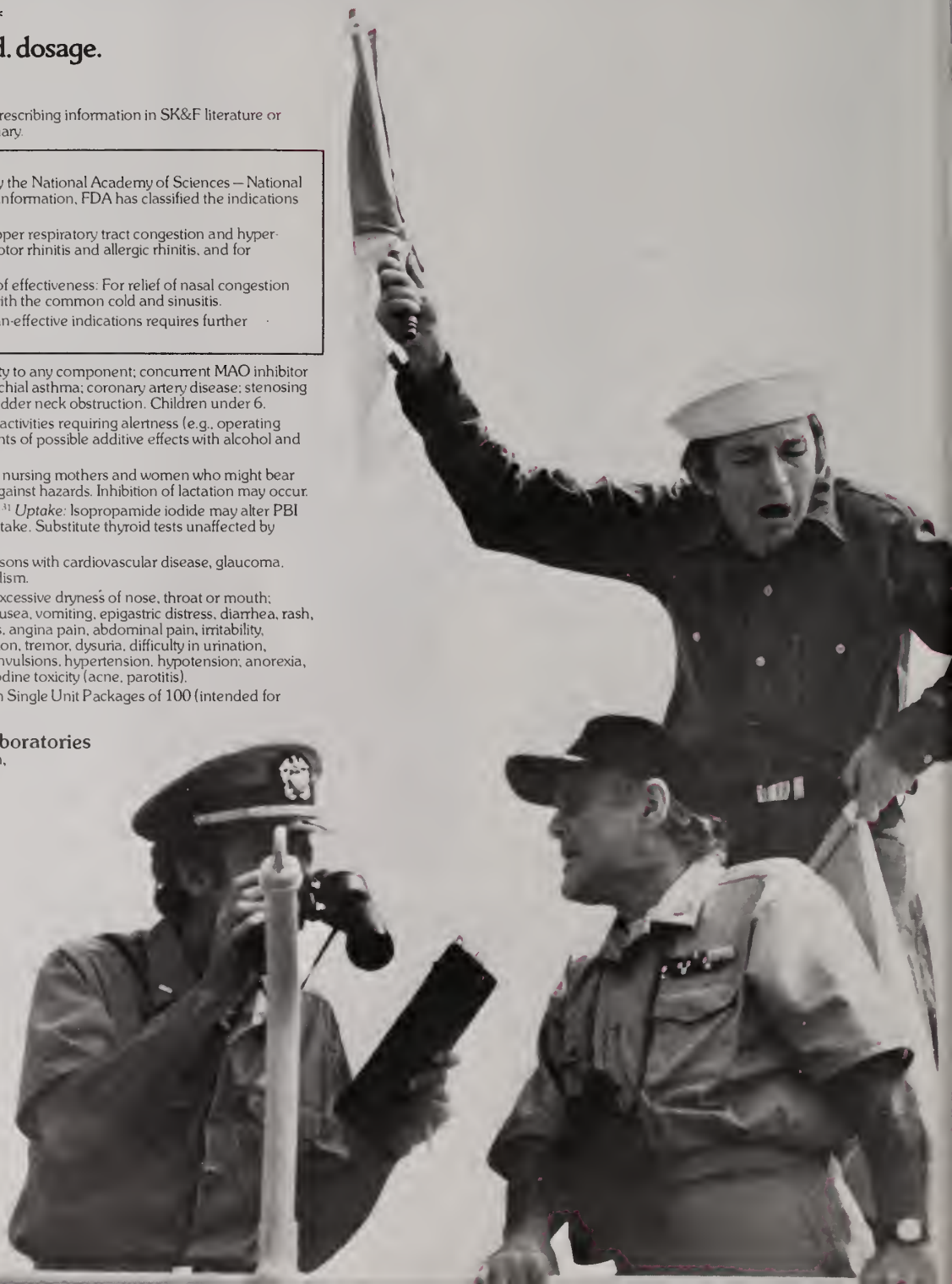
Precautions: Use cautiously in persons with cardiovascular disease, glaucoma, prostatic hypertrophy, hyperthyroidism.

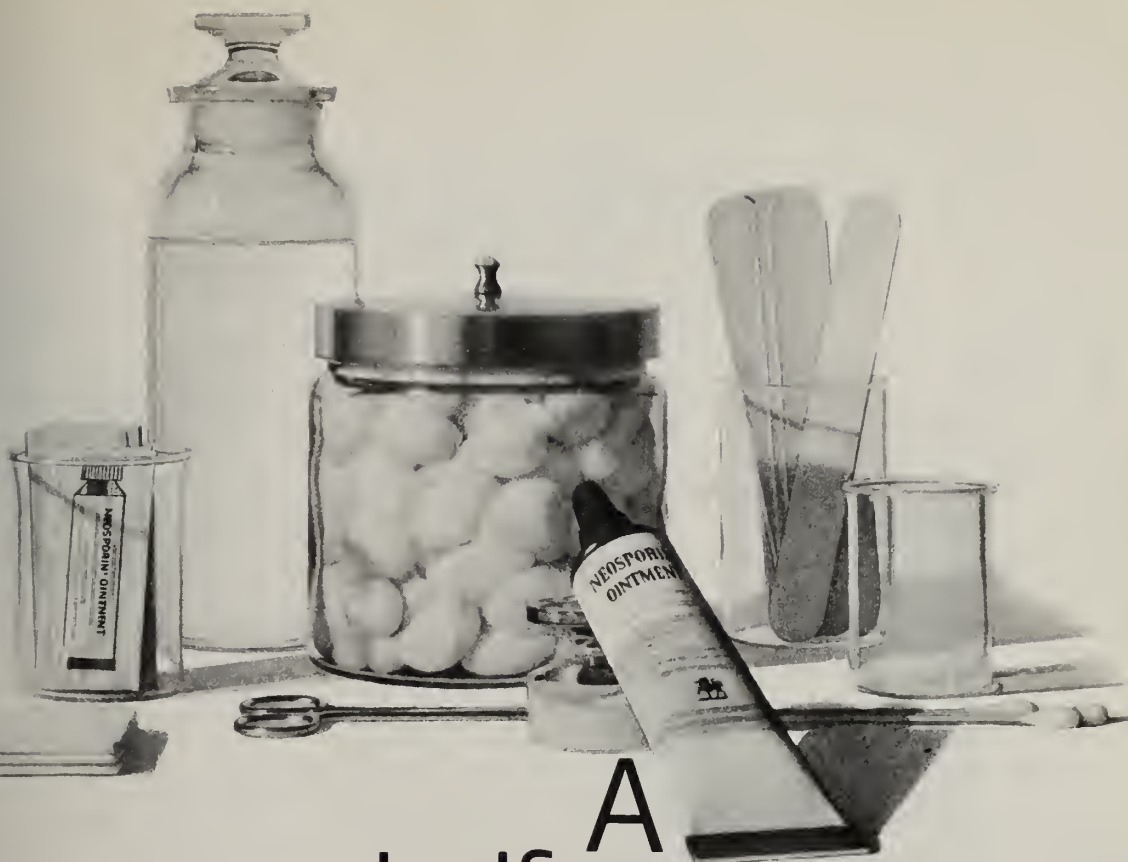
Adverse Reactions: Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

Supplied: Bottles of 50 capsules; in Single Unit Packages of 100 (intended for institutional use only).

Smith Kline & French Laboratories

Division of SmithKline Corporation,
Philadelphia, Pa. 19101





A half-ounce of prevention

Use it to prevent a topical infection. Or to treat one that's already started.

In either case, it's good medicine. Whether for lacerations, burns, open wounds, IV catheter or surgical aftercare.

Neosporin® Ointment provides broad antibacterial coverage against common susceptible pathogens. And since it contains three antibiotics that are rarely used systemically, the risk of sensitization is reduced.

Neosporin Ointment. A half-ounce of prevention. Also available in a full ounce of prevention and in convenient foil packets.

Neosporin Ointment carried on Apollo and Skylab missions.

Neosporin® Ointment (polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs.
In tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

INDICATIONS: *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa, primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection. *Prophylactically*, the ointment may be used to prevent bacterial contamination of burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the eyes or external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have known hypersensitivity to any of the components.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where

absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

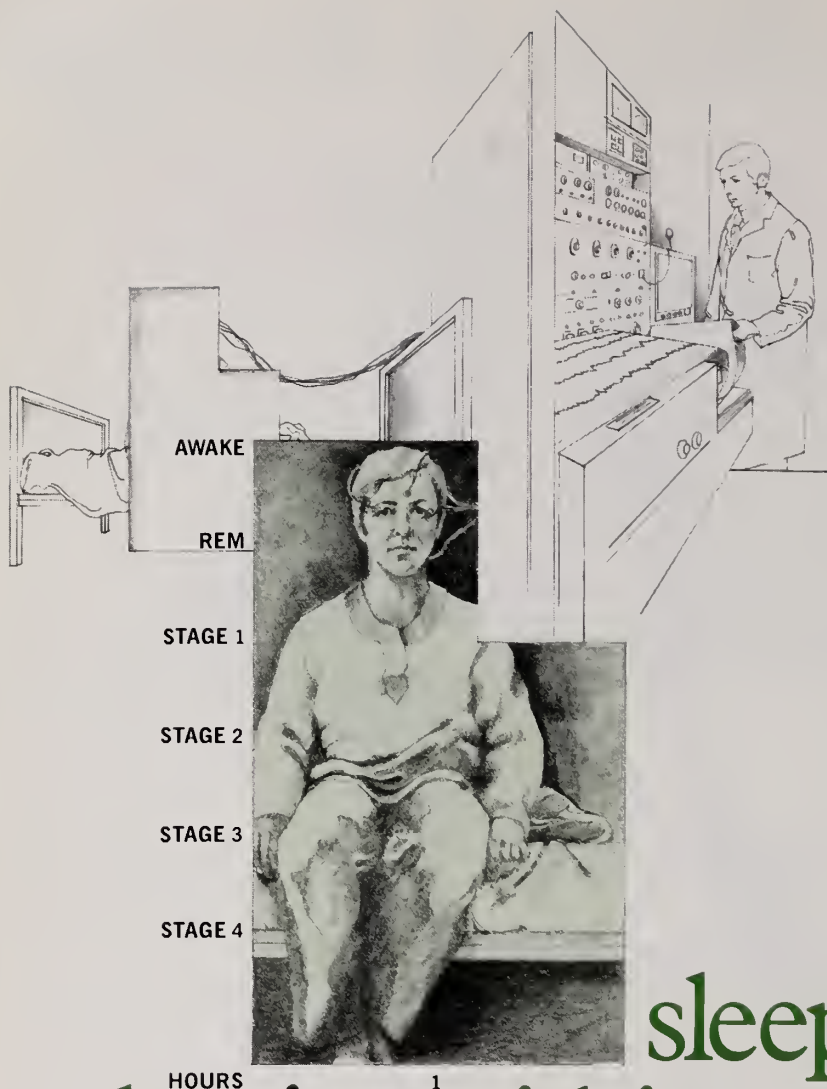
PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

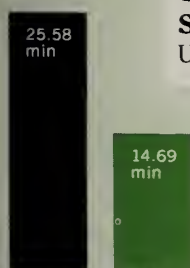


sleep
begins within
17 minutes, on average ...
an initial benefit of

Dalmane[®]
(flurazepam HCl) proved by a
**22-night clinical study of insomnia patients
in the sleep research laboratory and at home¹**

Three insomnia patients selected for difficulty falling asleep were administered Dalmane (flurazepam HCl) 30 mg for 14 consecutive nights. Placebo was given for four nights prior to and four nights after Dalmane. Physiologic tracings on Dalmane nights 1-3 showed sleep induction time averaged 13.90 minutes; on Dalmane nights 12-14, 18.80 minutes. Combined average for the 6 monitored drug nights was 16.35 minutes.¹

Average Time Required
to Fall Asleep (4 Studies,
16 Subjects²⁻⁵)



Baseline
(before Dalmane)

Dalmane
(flurazepam HCl) 30 mg

confirmed by clinical studies in four geographically separated sleep research laboratories²⁻⁵

Using a 14-night protocol involving eight insomniac and eight normal subjects, four studies confirmed the sleep-inducing effectiveness of Dalmane (flurazepam HCl) and the reproducibility of this response. On average, one 30-mg capsule induced sleep within 17 minutes. In all these studies, Dalmane induced sleep rapidly, reduced nighttime awakenings, and provided 7 to 8 hours of sleep without repeating dosage²⁻⁵

Dalmane (flurazepam HCl) induces and maintains sleep, with relative safety

Dalmane is generally well tolerated; morning "hang-over" has been relatively infrequent. While dizziness, drowsiness, lightheadedness and the like have been noted most often, particularly in the elderly and debilitated, physicians should be aware of the possibility of more serious reactions, as noted below.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

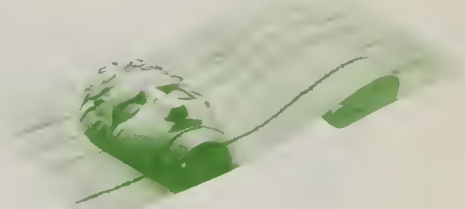
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to

addiction-prone individuals or those who might increase dosage.
Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



when restful sleep
is indicated

Dalmane[®] (flurazepam HCl)

One 30-mg capsule h.s. — usual adult dosage
(15 mg may suffice in some patients).

**One 15-mg capsule h.s. — initial dosage for
elderly or debilitated patients.**

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- sustains sleep 7 to 8 hours, on average, without repeating dosage



ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

REFERENCES: 1. Kales A, et al: *Arch Gen Psychiatry* 23:226-232, Sep 1970

2. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971

3. Frost JD Jr: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

4. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

5. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

The Role of the Detail Man

"I may be prejudiced, but I am very much in favor of the detail men I meet. Most of them are knowledgeable about the drugs they promote and can be a great help in acquainting me with new medication."

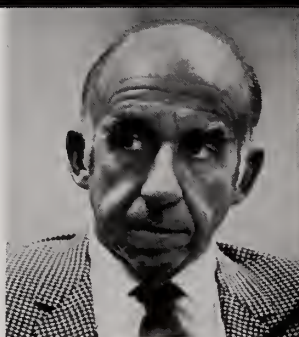
Family Physician's Perception

I think that most general practitioners in this area feel as I do about the detail man. Over the years I have gotten to know most of the men who visit me regularly and they in turn have become aware of my particular interests and the nature of my practice. They, therefore, limit their discussion as much as possible to the areas of interest to me. Since I usually see the same representative again in future visits, it is in his best interest to supply me with the most honest, factual, as well as up-to-date information about his products.



Dr. Willard Gobbell
Family Physician
Encino, California

Dr. Jeremiah Stamler
Chairman
Department of Community
Health and Preventive
Medicine, and Dingman
Professor of Cardiology
Northwestern University
Medical School



"In the total picture of dealing with health problems in this country, there is a potential for detail men to play a meaningful role."

The Positive Influence

My contact with representatives and salesmen of the pharmaceutical industry is the type of contact that people in a medical center, research people, and academic people have and that's in all likelihood on a somewhat different level from that of the practicing physician.

Let me touch on how I personally perceive the role of the sales representative. These men reach large numbers of health professionals. Thus they could be — and at times actually are — disseminators of useful information. They could consistently serve a real educational function in their ability to discuss their products.

At present they do distribute printed material, brochures and pamphlets — some of it scientifically sound and therefore truly useful — as well as some excellent films produced by the pharmaceutical industry. When they function in this

Opinion
&
Dialogue

Is He a Source of Information?

Yes, with certain reservations. The average sales representative has a great fund of information about the drug products he is responsible for. He is usually able to answer most questions fully and intelligently. He can also supply reprints of articles that contain a great deal of information. Here, too, I exercise some caution. I usually accept most of the statements and opinions that I find in the papers and studies which come from the larger teaching facilities. It goes without saying that a physician should also rely on other sources for his information on pharmacology.

Training of Sales Representatives

Ideally, a candidate for the position as a sales representative of a pharmaceutical company should be a graduate pharmacist who has a questioning mind. I don't think this is possible in every case, and so it becomes the responsibility

of the pharmaceutical company to train these individuals comprehensively. It is of very great importance that the detail man's knowledge of the product he represents be constantly reviewed as well as updated. This phase of the sales representative's education should be a major responsibility of the medical department of the pharmaceutical company.

I am certain that most of these companies take special care to give their detail men a great deal of information about the products they produce—information about indications, contraindications, side effects and precautions. Yet, although most of the detail men are well informed, some, unfortunately, are not. It might be helpful if sales representatives were reassessed every few years to determine whether or not they are able to fulfill their important function. Incidentally, I feel the same way about periodic assessments of everyone

in the health care field, whether they be general practitioners, surgeons or salesmen.

Value of Sampling

I personally am in favor of limited sampling. I do not use sampling in order to perform clinical testing of a drug. I feel that drug testing should rightly be left to the pharmacology researcher and to the large teaching institutions where such testing can be done in a controlled environment.

I do not use samples as a "starter dose" for my patients. I do, however, find samples of drugs to be of value in that they permit me to see what the particular medication looks like. I get to see the various forms of the particular medication at first hand, and if it is in a liquid form I take the time to taste it. In that way I am able to give my patients more complete information about the particular medications that I prescribe for them.

capacity they are indeed useful; particularly in the fact that they disseminate broadly based educational material and serve not just as "pushers" of their drugs.

The Other Side of the Coin

Obviously, the pharmaceutical companies are not producing all this material as a labor of love—they are in the business of selling products for profit. In this regard the ambitious and improperly motivated sales representative can exert a negative influence on the practicing physician, both by presenting a one-sided picture of his product, and by encouraging the practitioner to depend too heavily on drugs for his total therapy. In these ways, the salesman has often distorted objective reality and undermined his potential role as an educator.

The Industry Responsibility

Since the detail man must be an information resource as well as a representative of his particular pharmaceutical company, he should be carefully selected and

thoroughly trained. That training, perforce, must be an ongoing one. There must be a continuing battle within and with the pharmaceutical industry for high quality not only in the selection and training of its sales representatives, but also in the development of all of its promotional and educational material.

The industry must be ready to accept constructive as well as corrective criticism from experts in the field and consumer spokesmen, and be willing to accept independent peer review. The better educated and prepared the salesman is, the more medically accurate his materials, the better off the pharmaceutical industry, health professionals and the public—*i.e.*, the patients—will be.

Physician Responsibility

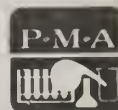
The practicing physician is in constant need of up-dated information on therapeutics, including drugs. He should and does make use of drug information and answers to specific questions supplied by the pharmaceutical representative. However, that informa-

tion must not be his main source of continuing education. The practitioner must keep up with what is current by making use of scientific journals, refresher courses, and information received at scientific meetings.

The practicing physician not only has the right, but has the responsibility to demand that the pharmaceutical company and its representatives supply a high level of valid and useful information. I feel certain that if such a high level is demanded by the physician as well as the public, this demand will be met by an alert and concerned pharmaceutical industry.

From my experience, my impression is that sectors of the pharmaceutical industry are indeed ethical. I challenge the industry as a whole to live up to that word in its finest sense.

*Pharmaceutical
Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005*



Blowing the whistle on the \$2 billion health boondoggle.



Fad diets, fountains of youth, sex rejuvenators, worthless cancer and arthritis "cures," unscientific cults--every year Americans waste at least \$2 billion on such fraudulent and often dangerous health products and practices.

Who blows the whistle on them? Who helps expose them to the public? Often, it's the AMA. The AMA is the largest collector and disseminator of information on health frauds in this country, serving as the clearing-house of such information for federal, state and municipal agencies and the public. It also provides regulatory and law enforcement agencies with documentation of such frauds for use in prosecution.

Physicians often ask what the AMA does. Protecting Americans from health frauds is just one of its many activities -- all made possible by the physicians who support the AMA through their membership. Find out more about the AMA and how it serves the public and the profession. Just send in the completed coupon.

**Join us.
We can do much more together.**

Dept. D W
American Medical Association
535 N. Dearborn St.
Chicago, Ill. 60610



Please send me more information on
the AMA and AMA membership.

Name _____
Address _____
City/State/Zip _____

Diagnosis: Hiatal Hernia **Treatment: Maalox®**

Maalox® relieves the symptoms of hiatal hernia by neutralizing gastric hyperacidity. It doesn't constipate. And its taste is pleasant, nonfatiguing—all important considerations in the treatment of a long-term condition like hiatal hernia.

In short, Maalox is the kind of antacid that makes symptomatic relief of hiatal hernia as decisive as its diagnosis.

Maalox® Suspension

Magnesia and Alumina Oral Suspension, Rorer)
8 fl. oz. [plastic bottle] and 12 fl. oz.).

Maalox® No. 1 Tablets (0.4 Gm.)

no sugar and low in sodium.

Maalox® No. 2 Tablets (0.8 Gm.)

the "chew" tablet with double antacid action.

Maalox®

(Magnesia and Alumina Oral Suspension, Rorer)

The number one antacid

WILLIAM H. RORER, INC.
Fort Washington, Pa. 19034

LISTA DE ANUNCIANTES

1.	BURROUGHS WELLCOME	NEOSPORIN
2.	CIBA PHARM	VIOFORM
3.	P. M. A.	INSTITUTIONAL
4.	ROCHE LABS	DALMANE, LIBRIUM, VALIUM
5.	W. H. RORER	MAALOX
6.	SMITH KLINE & FRENCH	ORNADE
7.	SYNTEX	NEO-MULL-SOY

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, espe-

cially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests

advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc
Nutley, N.J. 07110

to help reduce clinically significant anxiety and
thereby help improve patient receptivity

Librium® up to 100 mg daily in
severe anxiety
(chlordiazepoxide HCl)

Please see following page.



Symptom of excessive anxiety:

The patient may have difficulty in accepting medical counsel.

Clinical experience has shown that some unduly anxious patients may tend to deny or minimize their illness and therefore resist seeking

or following medical advice. Through its antianxiety action, adjunctive Librium (chlordiazepoxide HCl) can often calm the emotionally tense pa-

tient, thereby encouraging physician-patient rapport and, on occasion, making it easier for the patient to accept medical counsel.



Please see reverse side
for summary of product information.

for relief of excessive anxiety

Librium[®] 10-mg capsules
(chlordiazepoxide HCl)

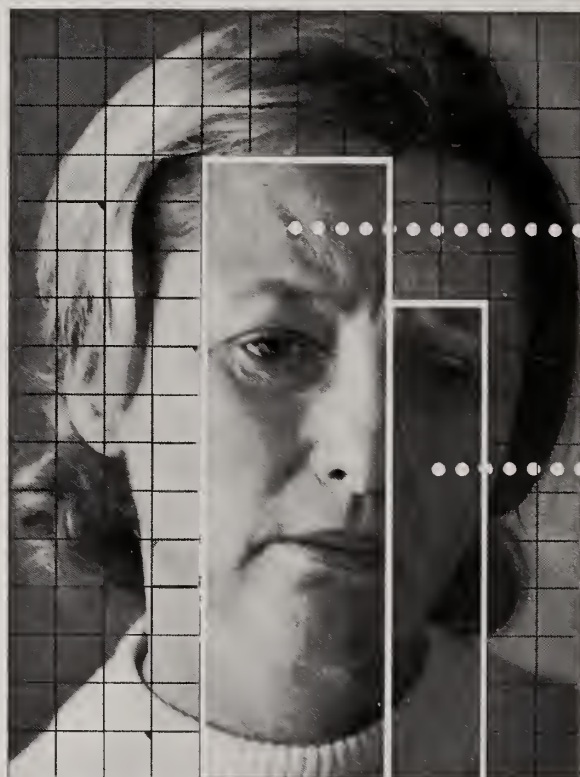
THE FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE
BOSTON

MAR 13 1975

Felicitades

THE FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE
10 SHATTUCK STREET
BOSTON, MASS. 02115

Both often



Predominant
psychoneurotic
anxiety

Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

THE FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE
BOSTON

MAR 13 1975

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or

two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

1. Henry BW, *et al*: *Dis Nerv Syst* 30:675-679, Oct 1969.
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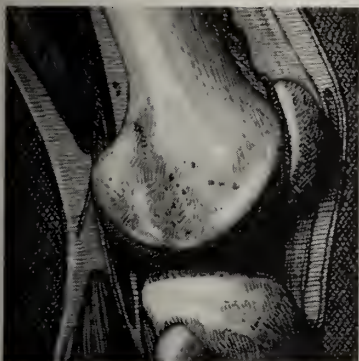
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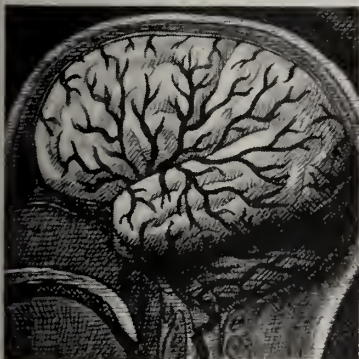
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— A NUESTROS PATROCINADORES —

En este año a punto de terminar, la Junta Editora desea expresar su agradecimiento a nuestros patrocinadores del Boletín de la Asociación Médica de Puerto Rico, quienes con su apoyo, permiten nuestra labor y el logro de nuestros objetivos. Son éstos proveer un medio para la publicación de artículos científicos de nuestros médicos, informar a nuestros lectores de problemas médicos de importancia, proporcionar vías de comunicación para expresar puntos de vista; tanto oficiales como de índole personal, estimular liderato médico para la solución de nuestros problemas; en fin, lograr una revista de actualidad que refleje la calidad de la medicina Puertorriqueña.

Agradecemos la ayuda y apoyo de nuestros patrocinadores.

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We sincerely thank our advertisers for their help and continued support.

NEW TECHNIQUE IN VARICOSE VEIN SURGERY WITH VEIN CUTTER

Richard S. Wilson, MD
Furman T. Wallace, MD

Operations for removal of varicose veins of the legs are common place in any general hospital. This so-called simple problem must be met every day and the operation performed well by the younger surgeon if he is to establish a surgical practice. An external vein cutter can provide an easier and quicker way of removal of varicose veins. Operating and anesthesia time are reduced. Both extremities can be treated at one time and since in two-thirds of our patients bilateral varicose veins are present, completing the operation in one procedure is important.

It has been established what must be accomplished in the treatment of primary varicose veins (2, 3, 4). The greater saphenous vein must be removed. The lesser saphenous must be removed when involved. Tributaries and accessory communicators with incompetent valves must be ligated subfascially. We are not proposing that any of these principles be omitted. The quick removal of the saphenous trunks leaves time, energy, and enthusiasm for direct excision of the other tributaries and incompetent communicating veins.

Surgical Technique

The principle of a new external vein cutter was introduced by Thompson and us in 1957 and has been subsequently modified to its present form. One size is adequate for all varicose veins and consists of a sharp cylindric cutting head 1 cm. in diameter mounted on a 14th inch shaft (Fig. 1). The cutter is always used over an intra-luminal guide.

Pre-operative functional tests are performed with par-

ticular attention to location of communicating veins with incompetent valves so they can be dissected out directly and ligated. The Trendelenburg test is used to see if the valves of the upper saphenous vein are incompetent. Communicating veins with incompetent valves can be located by placing tourniquets at repeatedly lower levels.

Perthes test is adequate and easy to determine if the deep veins are patent and that one may proceed with removal of varicose veins. In general, if a person can walk without pain or swelling with an elastic type support on the leg, the deep veins are open.



Figure 1

Previously prepared charts are marked and used to outline the veins at the time of initial examination. On the evening prior to surgery with the patient standing and using the skin lines as guides, a Magic Marker pen is used for outlining the main saphenous trunk and all communicating veins with incompetent valves. Meticulous dissection is used to remove all varicosities at one time. The operation includes standard groin incisions and upper saphenous dissection with high ligation of the saphenous vein at its junction with the femoral vein. All tributaries must be dissected out and ligated. The saphenous vein is identified at the ankle. An intra-luminal guide is then passed from the ankle to the groin and brought out through the incision (Fig. 2). The external cutter is passed on the outside of the vein and while traction is maintained on the ends of the guide, the instrument is passed with a rotating motion which detaches the saphenous vein from the ankle to the knee.

The cutter then passes from the groin incision downward external to the vein and with traction maintained on the internal guide at the groin and at the ankle, the saphenous vein is detached from the groin to the knee. The entire detached vein is withdrawn on the guide. The tributaries are cut off cleanly; thereby, avoiding avulsion of deeper segments of the vein which might

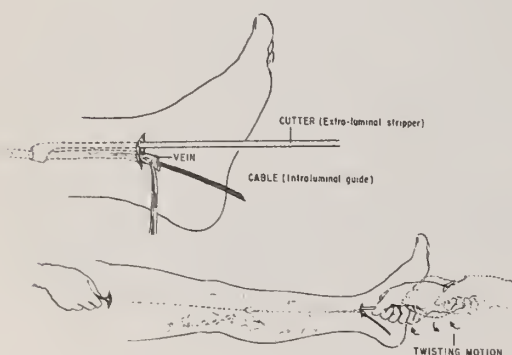


Figure 2

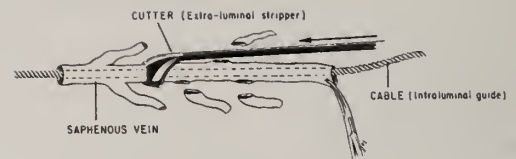


Figure 3

initiate deep venous thrombosis (Fig. 3). Incompetent communicating tributaries are dissected out through transverse incisions and ligated with direct excision. The groin incision is left open until all branches have been identified and stripped by internal and external combined techniques. The vessels are ligated with No. 30 cotton. The skin is closed with interrupted vertical mattress nylon sutures. A fluff gauze and padded dressing is applied from the toes to the groin and is supplemented by an elastic adhesive dressing. The patient is encouraged to walk immediately after surgery. Dressings are changed on the fourth post-operative day and elastic ace bandages are then applied. Sutures are removed as an out patient on the twelfth post-operative day.

Comments

Following episodes of thrombophlebitis, a long interval of three to six months should be allowed before surgery of the varicose veins. Sufficient time must elapse for recanalization of the veins. When this occurs, new perforators will develop. If the operation is done too soon, these will be missed, leading to recurrences of varicosities. In patients who have had

thrombophlebitis, a heavy duty custom fitted stocking should be worn pre-operatively for support and continued after surgery. Venograms may be necessary occasionally if the tourniquet test does not provide complete diagnosis. However, the tourniquet is usually adequate to locate perforators having incompetent valves.

In our opinion, sclerosing injections should never be used since sclerosing solutions may pass from the superficial varicose veins through the connecting tributaries into the deep venous system causing venous thrombosis. The patient then acquires a chronic disabling incurable disease instead of having a simple surgically correctable problem.

Summary

Experience with surgical management of patients with varicose veins in the Wallace Wilson Brailsford Clinic indicates that management is a demanding but gratifying one if it is carried out in a single operative procedure. The procedure of choice is ligation and stripping of the varicose veins with complete removal

of the entire superficial system. The procedure includes ligation of the greater saphenous vein at its junction with the femoral vein, ligation of its main branches at the groin, removal of the vein by stripping from the ankle to the groin with passing of an intra-luminal guide then transecting the vein by an external cutter. Additional transverse incisions are made over the incompetent communicating tributaries. These tributaries are dissected out and are ligated with direct excision. The Thompson Wallace Wilson vein cutter was used with good results in the last 911 extremities of 1186 varicose vein operations.

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HISTOPLASMOSIS: Especial Atención a las Cuevas de Aguas Buenas, P. R.

Juan R. Carvajal Zamora, MS

Histoplasma capsulatum es un hongo dimórfico; esto es, que tiene una fase micelial y una levaduriforme dependiendo de las condiciones de cultivo. En general, presenta las mismas características de los hongos imperfectos, tales como fisiológicas, citológicas, genéticas y químicas. Vive saprofíticamente en la naturaleza, pero es patógeno al hombre y otros mamíferos.

Histoplasma, es el agente etiológico de la enfermedad conocida como histoplasmosis, la que se adquiere mediante la inhalación de las esporas de fuentes exógenas.

Investigaciones Previas

En la década de 1940 se consideraba que la enfermedad era muy rara en Puerto Rico. En 1949 se hicieron las primeras pruebas de histoplasmina en la piel (1). En esa ocasión, se analizaron a 1,055 personas que incluían: veteranos, soldados, empleados de hospitales, niños de escuela y estudiantes de colegios. Resultaron positivos a la prueba 12.7 por ciento. En 1955 el "U. S. Public Health Service" examinó a un total de 1,611 niños de los primeros años de escuela por toda la Isla. Se tomaron en cuenta las zonas rurales y urbanas dando como resultados positivos 5.2 por ciento y 14.7 por ciento respectivamente (Citado 2, 3).

En los meses de diciembre de 1956 y junio de 1958, Torres de Blasini y Figueras (2), hicieron un estudio serológico en las áreas de Caguas, Juncos y Gurabo. De 399 personas examinadas, 18 por ciento dieron positivas a estas pruebas. En ese mismo estudio se diagnosticó un caso de histoplasmosis en un señor de 62 años de edad en Gurabo. Se hizo una encuesta en los alrededores de la casa del paciente, 215 personas fueron examinadas de los cuales menos del 48 por ciento eran menores de

16 años. 182 de las 215 personas se leyeron las pruebas, dando positivas 86, o sean, 52.7 por ciento.

En 1957 el Dr. Sifontes (4) hizo la prueba de histoplasmina a 107 niños menores de 6 años que estaban hospitalizados en el Departamento de Pediatría del Sanatorio Alejandro Ruiz Soler y a 305 adultos del Sanatorio de Cayey. Encontró que solo un niño dio reacción positiva a la prueba y 35 por ciento en los adultos. De estos últimos, 70 por ciento dieron reacción intensa. Entre los meses de julio de 1957 a febrero de 1958, el mismo Dr. Sifontes revisó las placas de Rayos X de 2,275 personas reactores negativo a la tuberculina. Encontró que el 7.8 por ciento tenían calcificaciones pulmonares; siendo la Ciudad de Juncos la de mayor incidencia con 19.6 por ciento y Fajardo la más baja con 2 por ciento. En el mismo trabajo, se informa el diagnóstico para histoplasmosis de dos niños de 14 y 15 años, que probablemente adquirieron la enfermedad en una excursión que hicieron a las Cuevas de Aguas Buenas.

En 1968 tres residentes de los Estados Unidos de Norteamérica, realizaron una excursión a las Cuevas de Aguas Buenas. Los tres contrajeron la enfermedad, presentando diferentes grados en las manifestaciones clínicas de histoplasmosis diseminada (5).

Se diagnosticó un caso en un cultivo post-mortem de una niña de 3 años de edad de la Ciudad de Caguas, Puerto Rico (3).

Cox (6) hizo la prueba de histoplasmina a 2,805 personas en las siguientes instituciones de Puerto Rico: Penitenciaría Estatal e Institución de Adultos Jóvenes, Hospital de Psiquiatría y la Escuela Industrial para Mujeres. Del total, 1611 eran hombres y 430 mujeres; arrojando como resultados positivos a la prueba 26 por ciento y 31 por ciento respectivamente al sexo.

Nuevos Informes

Otras evidencias de la prevalencia del hongo en

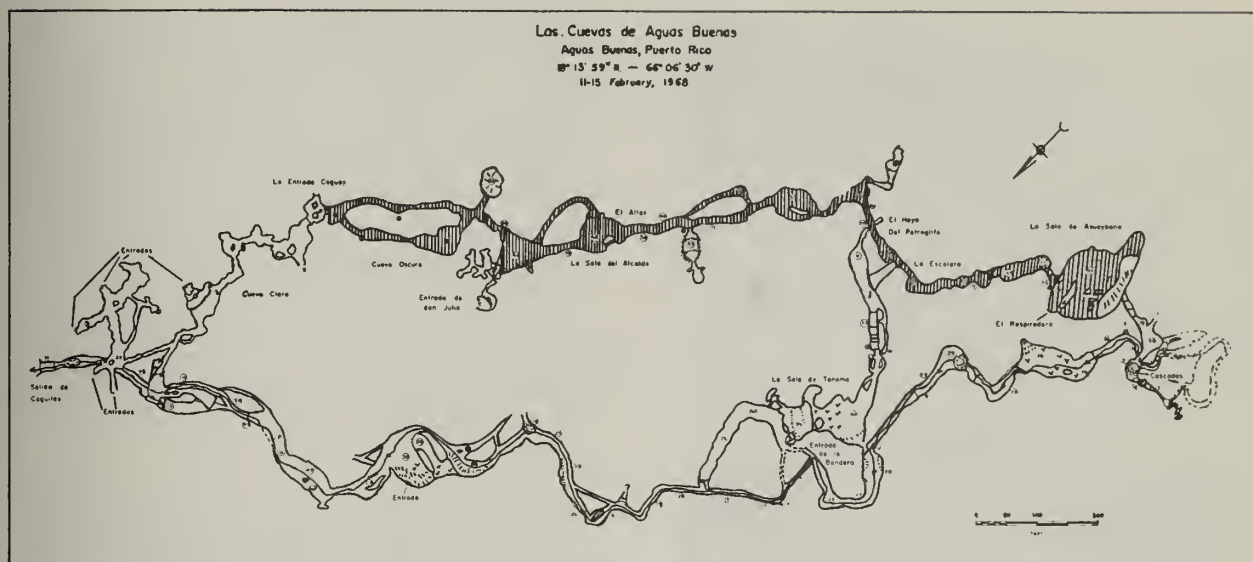


Fig. 1: Cuevas de Aguas Buenas. La parte sombreada señala el área de cueva oscura, propuesta para desarrollo comercial y turístico (R. H. Gurnee, ed., NSS Field Trip to Aguas Buenas caves, Puerto Rico, 1968, p. 6).

Puerto Rico están dadas por una gira que hiciera un grupo de científicos de la Sociedad Nacional de Espeleología (NSS) durante la semana de febrero 8-18 en 1968 a las Cuevas de Aguas Buenas (7). Esta tenía dos propósitos:

- Preparar un informe sobre la geología, topografía, biología, arqueología y aspectos médicos.
- Investigar las cuevas para sus posibilidades comerciales (Fig. 1).

En la visita se determinó que cuatro de los investigadores habían contraído la enfermedad y dos de ellos fueron seriamente afectados y hospitalizados. Más aún, el Sr. Russel H. Gurnee, hizo un viaje al Río Tamaná con dos miembros del "U. S. Geological Survey" de Puerto Rico en 1967. Uno de ellos contrajo histoplasmosis, fue hospitalizado y estuvo en delicado estado de salud durante tres meses (comunicación personal).

Más recientemente (nov. 1973), un investigador del Centro Médico, se encuentra en convalecencia después de haber contraído histoplasmosis en las Cuevas de Aguas Buenas (Conversación personal con la Dra. Gladys Torres de Blasini, oct. 1973). Otro caso, el Dr. Barry Beck, espeleólogo del Departamento de Recursos Naturales contrajo la enfermedad en las mencionadas cuevas (Conversación personal con el Dr. Beck, dic. 1973).

En el mes de mayo de 1973, la Universidad de Carleton de Ottawa, Canadá, ofreció un curso de Biología de Campo en las Cuevas de Aguas Buenas, Puerto Rico. En el participaron 3 instructores y 20 estudiantes. Todos ellos dieron negativo a la prueba de histoplasmina antes de empezar el curso; dando positivos al finalizar éste. La mayoría de los casos fue de un catarro benigno. Sin embargo, hubo un caso severo de un estudiante que estuvo en cama por una semana (8).

Esta alta incidencia positiva de histoplasmosis en Puerto Rico, parece indicar que la enfermedad ocurre con mayor frecuencia de lo que se creía en el pasado.

Con estos antecedentes clínicos, se empezaron a hacer estudios micológicos del suelo en 1963. En febrero de ese año, una muestra tomada de la Cueva de los Panes, en los límites de la Ciudad de Utuado, dio resultados positivos para *Histoplasma* (9). Más tarde, en 1965, Torres de Blasini y Carrasco (10), en estudios del suelo en diferentes lugares de la Isla, *H. Capsulatum* dio positivos en dos sitios: La Cueva de los Panes en Utuado y las Cuevas de Aguas Buenas en el Municipio de Aguas Buenas (Fig. 2).

Ecología y Relación con los Murciélagos de

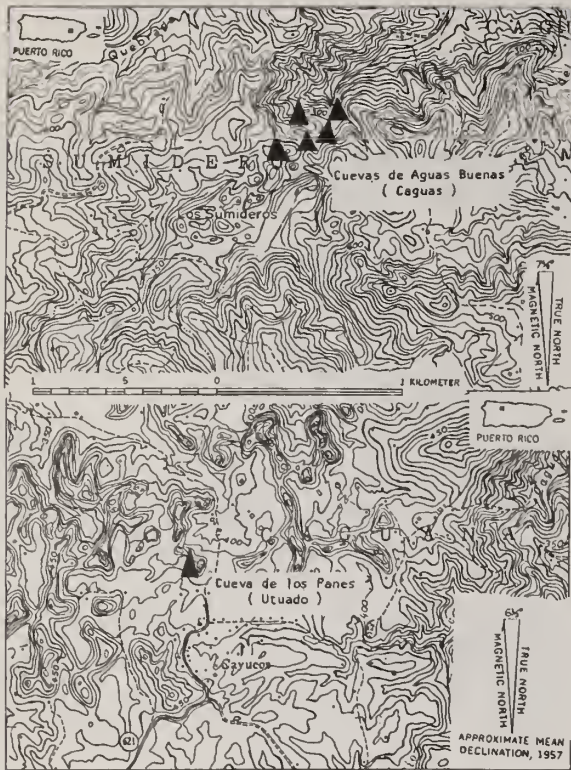


Fig. 2: Localización de las cuevas de Aguas Buenas y la cueva de los Panes (U. S. Geological Survey, 1964).

Histoplasma capsulatum

Como ya se mencionó, las características fisiológicas, citológicas, genéticas y químicas de *H. capsulatum* son similares al resto de los deuteromicetos. Sin embargo, no se puede generalizar en cuanto a la ecología de este hongo. Su relación con las heces fecales de aves y murciélagos como fuentes de energía, lo hacen diferir de una gran parte de su Clase. Factores como la temperatura y la humedad son muy importantes para el establecimiento del hongo en una región determinada.

Las manifestaciones clínicas y epidemiológicas de histoplasmosis demuestran comportamientos distintos en países con climas diferentes. Pues, experimentos con animales sostienen la hipótesis de que una temperatura alta constante en las tierras bajas sin alteración de las estaciones, pueden también contribuir a la inhibición de alguna de las manifestaciones de la enfermedad (11).

En cuanto al papel que juegan los murciélagos en la ecología del hongo, es muy importante debido a que el hongo se ha aislado de las heces de estos animales. También se ha aislado el hongo de los tejidos de los murciélagos del nuevo mundo solamente (12). Posiblemente, factores ambientales y el refugio de los murciélagos puedan influenciar la presencia de *H. capsulatum*. Así que el estudio del ciclo del hongo-suelo-murciélago contribuirá al entendimiento de la diseminación de *H. capsulatum* (13). Por lo tanto, es importante estudiar la fisiología, migración, invernación y otros hábitos de los murciélagos esencialmente, para determinar si éstos son vectores o víctimas de *Histoplasma capsulatum*.

Distribución y Epidemiología del Hongo

Hay evidencia basada en los estudios de cultivo del hongo de hombres y animales, también como el aislamiento del suelo, que la histoplasmosis es endémica en 31 estados de los 48 estados contiguos de los Estados Unidos de Norteamérica (14).

En América Latina, se extiende desde México en la latitud 32° N al Uruguay y Argentina. Los grados de sensibilización a la histoplasmina se ha encontrado que varía desde muy baja hasta casi 100 por ciento en los adultos en algunas áreas húmedas tropicales y subtropicales, especialmente en los valles y deltas de los ríos (15).

Si los murciélagos juegan un papel importante en la diseminación de la histoplasmosis en la naturaleza, los hábitos de migración de estos mamíferos voladores aumentaría la capacidad de distribución de *H. capsulatum* más allá de los focos naturales. Esto requiere mayores estudios también.

Manifestaciones Clínicas

Los hongos asociados con las enfermedades humanas se pueden dividir en aquellos que afectan la piel, los dermatofitos; y aquellos que son capaces de infectar los tejidos profundos del cuerpo; los hongos sistémicos. *Histoplasma* pertenece a estos últimos.

La histoplasmosis tiene una gran variedad de manifestaciones clínicas. La diseminación progresiva de la infección se riega infectando el sistema reticuloendotelial causando fiebre, malestares generales, hepatomegalia, esplenomegalia, anemia y leucopenia. También pueden ocurrir lesiones mucocutáneas (16).

Como hemos visto, la enfermedad es cosmopolita. Existen áreas de alta endemicidad en los Estados Unidos de Norteamérica especialmente en los Valles del Mississippi central y el Río Ohio.

La histoplasmosis puede coexistir con la tuberculosis lo que hace más difícil el diagnóstico. Hay tres tipos de histoplasmosis pulmonares (17):

- a. Forma aguda - Esta aparece como una infección respiratoria y se puede describir como un "catarro prolongado".
- b. Forma diseminada - El proceso de la enfermedad puede ser lento y progresivo seguido de la diseminación por la corriente sanguínea y regarse a varios órganos o puede ser fulminante con un rápido deterioro clínico causando la muerte. Muchos de estos casos no se distinguen de la tuberculosis.
- c. Forma crónica - El proceso de la enfermedad puede manifestarse inicialmente como una infección pulmonar que llega a ser progresiva con aumentos que envuelven los tejidos pulmonares por períodos de un mes o un año. Sin embargo, este tipo de infección representa más probablemente una RE-INFECCION de histoplasmosis como en el caso de la tuberculosis.

De los tres tipos de histoplasmosis, las formas crónicas y diseminadas son las más peligrosas.

Control, Prevención, Erradicación y Tratamiento de Histoplasmosis

El problema de histoplasmosis es uno de naturaleza ambiental y de salud pública, por lo que requiere estudios más profundos para encaminarse a la erradicación del patógeno de las zonas endémicas (18).

En general, el control de cualquier agente patógeno a otros organismos, significa la intervención del hombre en determinados factores ambientales en detrimento de dicho agente; sin embargo, esto no significa su total eliminación o erradicación. Esta intervención puede ser también de carácter preventivo; pero que en todo caso no resuelven el problema aún parcialmente, pues en el caso de *Histoplasma*, las esporas del hongo pueden ser transportados por varios agentes de un lugar a otro con el consecuente establecimiento en otro lugar. La aislación del hongo de distintos lugares en la Isla evidencian este hecho.

Las investigaciones realizadas para la erradicación de los focos endémicos de histoplasmosis han dado resultados preliminares muy buenos. Tosh y otros (19), lograron decontaminar de *Histoplasma* por 10 meses, un área de 5- acres en Mason City, Iowa, usando

una solución de formalina al 3 por ciento en dosis de 36 galones por cada 100 pies cuadrados diario por espacio de dos días. Sin embargo, para erradicar el hongo de una cueva, requeriría el uso de un fungicida no volátil; pues el gas producido por la alta volatilidad de la formalina se concentraría en tal forma que afectaría a los murciélagos y otros animales (comunicación por correspondencia con el Dr. Tosh, abril 23, 1974).

Otros experimentos encaminados a la erradicación de *Histoplasma* de lugares endémicos fueron realizados en City Park, Missouri en 1959 (20). Se usaron los siguientes compuestos: Orthocide, 100 libras mezcladas con 750 galones de agua por acre; D-D (1,3 dichloropropane y 1,2 dichloropropane), 15 galones en 1,000 galones de agua en un área de 40 x 100 pies; SD 345 (allylidene diacetate), 1 1/10 de galón mezclado con 1,000 galones de agua en un área de 40 x 100 pies; beta-propiolactone, 1 por ciento y 2 por ciento en un área de 30 x 30 pies.

Stotzky (21) sugiere que la distribución y ecología de *H. capsulatum*, está relacionada con la minerología de la arcilla de los suelos de donde se ha aislado el hongo. Esta afecta diferencialmente la actividad de los microorganismos del suelo. Como corolario a la erradicación de *H. capsulatum* de los focos endémicos, podría prevenirse su reestablecimiento mediante la incorporación de montmorillonita al suelo, pues alterando sus características físico-químicas, es posible alterar la composición biótica del mismo (comunicación por correspondencia con el Dr. Stotzky, mayo 1, 1974).

No hay forma de evitar la enfermedad una vez se establece el contacto entre el hongo y el hombre. Hasta la fecha el antimicótico más usado con pacientes de histoplasmosis es la anfotericina B. Para infecciones severas de histoplasmosis dosis de 0.5gm y 3.2gm tres veces por semana por 16 semanas aproximadamente, son recomendables (22).

Otras dosis usadas con la forma diseminada de la enfermedad son de 0.5mg/kg diariamente (23).

Se han investigado otros compuestos invitro para el tratamiento de la histoplasmosis: diamidinodifenilamina (24) y compuestos relacionados con los bisulfuros orgánicos (25, 26, 27, 28).

Resumen

El hongo *Histoplasma capsulatum*, es el agente etiológico de la enfermedad conocida como histoplasmosis. Se adquiere la enfermedad mediante la inhalación de las esporas del hongo de fuentes exógenas.

Histoplasma capsulatum es cosmopolita y es endémico en algunos lugares de Puerto Rico. La Histoplasmosis ha sido detectada por médicos y micólogos mediante las pruebas cutáneas con histoplasmina y otras pruebas serológicas. Se han hecho pruebas en personas de todas las edades, raza y condiciones sociales en toda la Isla. Además, desde 1963 los estudios del suelo han demostrado la presencia del hongo en varios lugares de la Isla, particularmente en las Cuevas de Aguas Buenas. Frecuentemente, se detectan brotes de la enfermedad en los que visitan estas Cuevas.

La histoplasmosis pulmonar, ocurre en tres formas: aguda, diseminada y crónica. Las últimas dos pueden ser fatales si no son tratadas a tiempo. En los pasados 10 años, la anfotericina B ha sido el único tratamiento conocido para la histoplasmosis también como para otras micosis profundas.

En Puerto Rico no se han hecho experimentos para el control y erradicación de la histoplasmosis. Algunas veces, los focos endémicos se relacionan con los hábitats de murciélagos; sin embargo, el papel ecológico que juegan los murciélagos con la histoplasmosis no es bien conocido aún, mal interpretándose frecuentemente dicha relación; pues hasta la fecha, no hay evidencia científica para determinar si los murciélagos son vectores o víctimas de *H. capsulatum*.

Summary

The fungus *Histoplasma capsulatum* is the causative agent of the disease known as histoplasmosis. The disease is contracted by breathing the spores of this fungus from exogenous sources. The fungus has world-wide distribution and is endemic to certain sites in Puerto Rico. Histoplasmosis has been detected by physicians and micologists by the histoplasmin skin test among other serological tests. People of all ages, races and social conditions have been tested all over the Island. More over, soil studies since 1963 have also demonstrated the presence of the fungus in several areas of the Island, particularly the Aguas Buenas Caves. Outbreaks of the disease have frequently been traced to visits to these caves.

Pulmonary histoplasmosis occurs in three forms, acute, disseminated, and chronic; the later two may be fatal if not promptly treated. During the past ten years, amphotericin B has been the only known treatment for histoplasmosis as well as other deep mycoses.

Control and eradication of histoplasmosis have not been attempted in Puerto Rico. Epidemic foci are sometimes related to bat habitats, but as a matter of

fact, the bats ecological role in histoplasmosis is not well known yet. It is frequently misunderstood because to date there is no scientific evidence whether bats are vectors or victims of *H. capsulatum*.

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**LEY QUE REGULA LA PRACTICA DE LA
MEDICINA EN PUERTO RICO
LEY NUM. 22**

Ley Núm. 22

Aprobada en 22 de abril de 1931

(Según quedó enmendada por la Ley Núm. 61 de 22 de abril de 1958; Núm. 97 de 21 de junio de 1961; Núm. 17 de 11 de junio de 1965; Núm. 127 y 135 de 28 de junio de 1969; Núm. 147 de 30 de junio de 1969; Núm. 75 de 30 de mayo de 1970; Núm. 18 de 24 de abril de 1972 y Núm. 114 de 18 de julio de 1974).

Para regular el ejercicio de la profesión médica en Puerto Rico; para establecer un Tribunal Examinador de Médicos; para derogar la "Ley estableciendo un Tribunal Examinador de Médicos, regulando el ejercicio de la profesión médica, y para otros fines". Aprobada el día 30 de julio de 1923; para derogar la "Ley para enmendar la Ley titulada "Ley estableciendo un Tribunal Examinador de Médicos, regulando el ejercicio de la profesión médica y para otros fines, aprobada en 30 de julio de 1923; y para otros fines", aprobada el día 1.º de julio de 1924, y para otros fines.

Decrétase por la Asamblea Legislativa de Puerto Rico:

Artículo 1. Al empezar a regir esta ley, el Gobernador de Puerto Rico, por y con el consejo y consentimiento del Senado de Puerto Rico, a propuesta de las sociedades o asociaciones médicas, debidamente inscritas en el Departamento de Estado de Puerto Rico, como sociedades o asociaciones para fines no pecuniarios, nombrará por un término de cuatro años, un Tribunal Examinador de Médicos, compuesto de siete médicos, con no menos de cinco años de ejercicio de la profesión en el Estado Libre Asociado cada uno, y de acuerdo con las siguientes disposiciones: Disponiéndose, que no más de tres de estos médicos serán residentes de la ciudad de San Juan, y disponiéndose, además, que para los exámenes de podiatría se añadirá al Tribunal un podiatra nombrado por el Gobernador con el consejo y consentimiento del Senado de Puerto Rico, a propuesta de la sociedad o asociación de Podiatras de Puerto

Rico, debidamente inscrita en el Departamento de Estado del Estado Libre Asociado como sociedad o asociación de fines no pecuniarios".

Artículo 2. Dicho tribunal se proveerá de un sello oficial y elegirá de su seno, en la primera sesión y cuando hubiese una vacante, un Presidente y 6 vocales. Cuatro miembros del Tribunal constituirán quorum y las decisiones se tomarán por mayoría".

Artículo 3. El Presidente y el Secretario de Estado firmarán todo documento oficial emanado del Tribunal Examinador de Médicos".

Artículo 4. El Tribunal tendrá a su cargo la autorización, en el Estado Libre Asociado de Puerto Rico, de acuerdo con las disposiciones de esta ley, del ejercicio de la profesión de médico-cirujano, podiatra,

osteópata y de las profesiones auxiliares, quedando por la presente autorizado para expedir licencias para las profesiones siguientes: de médico-cirujano, de osteópata, de podiatra, de practicante de enfermera obstetra o comadrona. Disponiéndose, que para la autorización del ejercicio de la podiatría en Puerto Rico el Tribunal quedará compuesto por dos de los médicos y el podiatra."

Artículo 5. El Secretario de Estado rendirá al Secretario de Hacienda una cuenta mensual de sus ingresos y gastos y certificará la asistencia por sesiones de los miembros del Tribunal; deberá llevar un libro de actas de las sesiones, las cuales firmará juntamente con el Presidente, y también tendrá a su cargo un registro de todos los solicitantes de licencias, debidamente clasificados por profesiones, con la expresión de la edad de los mismos, el tiempo invertido en sus estudios y el nombre y lugar de las instituciones que expidieron los diplomas correspondientes, o los certificados de asistencia y práctica. También se hará constar en dicho registro si ha sido rechazado el aspirante o si ha recibido alguna licencia

con arreglo a esta ley. Además tendrá a su cargo y bajo su custodia y responsabilidad todos los documentos, libros de registros y archivos pertenecientes al Tribunal."

"Artículo 6. El Tribunal presentará al Gobernador de Puerto Rico, por conducto del Secretario de Estado, un informe anual demostrativo de sus trabajos, dando cuenta del número de solicitudes recibidas y licencias expedidas; de las cuentas de gastos e ingresos; cuentas de dietas recibidas por los miembros del Tribunal y quiénes las recibieron, y los demás datos que el Gobernador solicitare."

"Artículo 7. El Tribunal podrá contratar los servicios de un abogado en casos en que lo estime necesario; y los honorarios serán satisfechos de los fondos del Tribunal Examinador de Médicos; y si éstos no fueren suficientes, de cualesquiera otros fondos existentes en el Tesoro Estatal, no destinados para otras atenciones; tendrá facultad para citar testigos y obligarlos a comparecer ante él, y estará asimismo facultado para tomar declaraciones y juramentos y para recibir las pruebas que le fueren sometidas en todo asunto que caiga dentro de su jurisdicción. Asimismo podrá exigir que se le envíen copias de libros, documentos o extractos de ellos, en todos los casos en que tenga derecho a examinar los originales o a exigir la presentación de los mismos. Toda citación con apercibimiento expedida por el Tribunal, deberá llevar el sello del mismo, y deberá ser suscrita por el Presidente o el Secretario de Estado, pudiendo ser notificada por cualquier adulto en cualquier parte del Estado Libre Asociado de Puerto Rico."

"Todo testigo que fuere requerido para comparecer ante el Tribunal o ante cualquiera de sus miembros, recibirá por cada día de comparecencia la suma de cinco (5) dólares y recibirá además quince (15) centavos por cada milla recorrida por el testigo, por la ruta usual, entre su casa y el sitio de la comparecencia. Todos los desembolsos que se hicieren en el pago de dichos honorarios se pagarán en la misma forma que se dispone en el primer párrafo de este artículo."

"Los honorarios para notificación de una citación con apercibimiento, serán iguales a los que se pagan por servicios similares en el Tribunal Superior. Los honorarios, gastos y costas en cualquier audiencia o en relación con ella serán satisfechos en la forma que el Tribunal acordare."

"Si cualquier individuo que hubiere sido citado con apercibimiento para comparecer ante el Tribunal o ante cualquiera de sus miembros, dejare de obedecer dicha orden o citación, o si cualquier individuo que

compareciere ante el Tribunal o ante cualquiera de sus miembros se negare a prestar juramento o a declarar, o a contestar cualquier pregunta pertinente, o a presentar cualquier documento pertinente cuando así lo ordenare el Tribunal, éste podrá invocar la ayuda de cualquier Sala del Tribunal Superior de Puerto Rico, para obligar dicha comparecencia, la declaración de los testigos y la presentación de documentos; y dicha corte por causa justa demostrada, expedirá una orden a cualquier persona para que comparezca ante el Tribunal o cualquiera de sus miembros y presente los papeles y documentos requeridos, si así se le ordenare, y para que preste declaración en cuanto al asunto de que se trate; y la falta de obediencia a dicha orden de la corte, constituirá desacato y podrá ser castigada como tal."

"El Tribunal podrá promulgar las reglas y reglamentos que estime conveniente para la buena marcha de dicho organismo, y para el mejor cumplimiento de esta Ley, siempre que aquellos no estuvieren en pugna con la misma, ni impidan el cumplimiento de los deberes específicos en ella establecidos. Tales reglas y reglamentos, una vez aprobados por el Tribunal, tendrán fuerza de ley y serán promulgados y publicados por el Secretario de Estado de Puerto Rico."

"Artículo 8. A cada miembro del Tribunal, por la presente, se le asigna la suma de treinta y cinco (35) dólares por cada día o fracción que prestare sus servicios y, además, a los no residentes se les pagará millaje, a razón de quince (15) centavos por cada milla recorrida."

"Artículo 9. Toda persona que fuere convicta de ejercer ilegalmente la medicina o cirugía, la osteopatía, o cualquiera de las profesiones auxiliares reguladas por esta ley, conforme a las disposiciones de esta ley, incurrirá en delito menos grave y será castigada con una multa no menor de mil (1,000) dólares o cárcel por un mes, o ambas penas a discreción del Tribunal. En caso de reincidencia el delito aparejará pena mínima de noventa días de cárcel. El Tribunal Superior tendrá jurisdicción concurrente sobre estos casos."

"Para los efectos de esta ley, se considerará como ejerciendo ilegalmente la medicina y cirugía, la osteopatía, o cualquiera de las profesiones auxiliares reguladas por esta ley o cualquier persona que sin poseer una licencia expedida por el Tribunal Examinador de Médicos de Puerto Rico, se anunciare o se hiciere pasar como médico, cirujano, osteópata, o como profesional en el ejercicio de cualquiera de las profesiones auxiliares reguladas por esta ley, y que pretendiere estar capacitado para diagnosticar, tratar, operar, o recetar para cualquier enfermedad, dolor, lesión, deformidad, o con-

dición física, o que lleve a cabo o se ofrezca por cualesquiera medios o métodos para diagnosticar, tratar, operar, o recetar para cualquier enfermedad, dolor, lesión, deformidad, o condición física, reciba o no remuneración por tales servicios. Los estudiantes de medicina debidamente matriculados en escuelas médicas organizadas en Puerto Rico podrán, bajo la supervisión docente de un médico debidamente autorizado para ejercer la medicina en Puerto Rico, llevar a cabo exámenes en seres humanos, recetar, ayudar en operaciones, dar anestesia, atender casos de cirugía menor y atender casos de parto como parte de sus estudios, mientras asistan a la escuela de medicina. Constituirán, además, delito menos grave sujeto a las mismas penalidades enumeradas anteriormente las siguientes prácticas:

"(1) El uso del título de "doctor en medicina", o de la abreviatura M. D., usada esta sola, o asociada a otros términos, con el propósito de solicitar pacientes, excepto en los casos de personas que estuvieren legalmente autorizadas para ejercer la medicina en Puerto Rico. (2) El uso de los términos "especialista pédico", "cirujano pédico", "cirujano ortopédico", "especialista ortopédico", o cualquiera otra derivación de los mismos, si no es persona autorizada para ejercer la profesión médica en Puerto Rico. (3) El anunciarse como "quiropodista" o podiatra, a menos que sea un podiatra legalmente autorizado para ejercer dicha profesión en este Estado Libre Asociado, haciendo saber que el anunciante trata enfermedades y dolencias de las condiciones anormales de los pies."

"Artículo 10. El Tribunal podrá ofrecer periódicamente exámenes de reválida totales o parciales en o fuera de Puerto Rico por lo menos dos veces al año y de acuerdo con normas que establezca el Tribunal Examinador en Coordinación con el Departamento de Estado."

"Artículo 11. Los exámenes de reválida de médicos, cirujanos y osteópatas se efectuarán según las reglas que dicte el Tribunal siempre que conste evidencia gráfica de la evaluación hecha en cada caso. Dichos exámenes incluirán, pero sin limitarlos, aquellas materias sobre las ciencias básicas a la medicina y disciplinas clínicas que el Tribunal estime convenientes.

Los exámenes podrán ser contestados en los idiomas inglés o español, a elección del examinado."

"Artículo 12. Los derechos de exámenes y certificados o licencias serán determinados por el Secretario de Estado. Todos los derechos se pagarán por adelantado en giro postal o cheque certificado, a nombre o a la orden del Secretario de Estado. Todo aquél que no lo grase pasar el examen requerido o por causa justificada y aceptable para el Tribunal no hubiere podido presen-

tarse a la convocatoria correspondiente, tendrá el privilegio de ser admitido a tomar el examen próximo, libre de derechos. El importe de estos derechos no será devuelto al solicitante por dejar de presentarse a examen, ni por haber sido desaprobado. Los candidatos a examen, sólo tendrán cinco oportunidades para tomar dicho examen; requiriéndosele que demuestren haber recibido entrenamiento adicional de seis (6) meses por lo menos en una escuela de medicina u hospital reconocido por el Tribunal Examinador de Puerto Rico, para que el Tribunal, les brinde oportunidades adicionales para tomarlo."

"Artículo 13. Todos los fondos recaudados por cualquier concepto por cada una de las juntas examinadoras y juntas de registro enumeradas en la sección 3 de este título, ingresarán al Fondo General del Tesoro Estatal." (20 LPRA 6).

"Todos los egresos por concepto de servicios personales así como cualquier otro gasto incurrido en la realización de los propósitos para los cuales fueron creadas todas y cada una de las juntas examinadoras y juntas de registro, se pagarán de aquellas asignaciones que considere necesarias la Legislatura de Puerto Rico y que se incluirá en el Presupuesto General de Gastos." (20 LPRA 7).

"Artículo 14. Toda persona que aspire a obtener licencia para ejercer en el Estado Libre Asociado de Puerto Rico la profesión de médico cirujano o la de osteópata, deberá cumplir con los siguientes requisitos:"

"(1) Ser mayor de edad y ciudadano de Estados Unidos de América o residir con carácter de permanencia un mínimo de tres (3) años en Puerto Rico."

"(2) Poseer un diploma, título de médico cirujano u osteópata o certificado de haber completado satisfactoriamente todos los estudios académicos de la carrera de médico-cirujano u osteópata, expedido por alguna universidad, cuyo curso de estudios esté aceptado y registrado por el Tribunal Examinador de Médicos de Puerto Rico. El Tribunal Examinador no reconocerá la validez de un título de médico cirujano u osteópata en aquellos casos en que el aspirante no haya cursado, por lo menos, los dos últimos años de su carrera en la Escuela de Medicina que lo expide, si dicha Escuela es extranjera. Tampoco aceptará la validez de un título si la Escuela de Medicina que lo expide excusó al aspirante de tomar cualquier asignatura incluida en el currículo normal, aceptado y registrado por el Tribunal Examinador de Médicos de Puerto Rico."

"(3) Haber aprobado los exámenes a que se refiere el Artículo 11 de esta ley. El Tribunal Examinador de

Médicos podrá eximir del requisito de examen a aquellas personas que hayan obtenido licencia para ejercer dicha profesión mediante exámenes aprobados ante el Tribunal correspondiente en los estados de la Unión Americana, con los cuales el Tribunal Examinador de Médicos haya establecido relaciones de reciprocidad, y a aquellos médicos cirujanos que posean un diploma expedido por el Tribunal Nacional de Examinadores Médicos (National Board of Medical Examiners of the United States of America), o haber aprobado el examen de licenciatura de la Federación de Juntas Médicas Estatales, (FLEX). En ambos casos dichos médicos cirujanos deberán cumplir con los demás requisitos exigidos en este artículo."

"(4) El aspirante suministrará evidencia satisfactoria al Tribunal Examinador de Médicos de que después de haberse graduado en la escuela de medicina ha trabajado como interno o residente por no menos de un año en un hospital aprobado por el tribunal."

"(5) Practicar por un período mínimo de un año como médico en el servicio público de Puerto Rico en el sitio que designe el Secretario de Salud en consulta con el médico y aprobado por el Tribunal Examinador de Médicos de Puerto Rico, mediante licencia especial expedida al efecto, indicando el pueblo donde habrá de llevarse a cabo dicha práctica. Se entenderá por el "servicio público" el servicio prestado en Puerto Rico en los servicios médicos asistenciales, municipales, estatales o federales y como residentes en hospitales gubernamentales, estatales, municipales o federales y hospitales con fines no lucrativos, con programas de residencia aprobados por el Consejo de Educación Médica de la Asociación Médica Americana. Si se presentare un candidato a licencia y no hubiere vacante una posición en el servicio público, que permita al aspirante cumplir con este requisito, el Secretario de Salud así lo informará al Tribunal Examinador de Médicos y dicho Tribunal eximirá al aspirante del cumplimiento de dicho requisito. Se faculta al Tribunal Examinador de Médicos para que de común acuerdo con el Secretario de Salud, autorice a médicos con más de diez (10) años de práctica, reconocidamente especializados en los distintos campos de la medicina o médicos que a la fecha de aprobación de esta ley, hayan cumplido o estén en vías de cumplir un período de residencia especializada en un hospital de los Estados Unidos, a cumplir este requisito bajo condiciones especiales que permitan que el interés público reciba el máximo beneficio que pueda derivarse de una juiciosa y eficaz utilización por el estado, de los servicios especializados de tales médicos. Cualquier médico que no haya podido cumplir con los requisitos que dispone este inciso, por estar

siviendo como tal en las Fuerzas Armadas de los Estados Unidos, estará exento de cumplir con dichos requisitos al regresar a Puerto Rico."

"(6) Aquellas personas que se hubieran graduado antes de la aprobación de esta ley serán admitidos al ejercicio de la profesión al someter en lugar del requisito de un año de internado, evidencia de haber ejercido legalmente la profesión de medicina por un período de cinco años en los Estados Unidos o en cualquier otro país."

"En el caso de médicos de buena reputación científica que vinieren al Estado Libre Asociado de Puerto Rico y desearan ejercer la medicina, el Tribunal Examinador de Médicos, podrá después de aquilatar los méritos y autoridad científica del interesado, librarle la correspondiente licencia para ejercer la medicina en Puerto Rico, por término de un año, prorrogable a discreción del Tribunal Examinador de Médicos."

"No podrá desempeñar las funciones de médico cirujano en ningún cargo público, ninguna persona que no haya sido previamente autorizada por dicho tribunal, para ejercer la profesión de médico-cirujano en Puerto Rico. La infracción de cualquiera de estas disposiciones constituirá práctica ilegal de la medicina, con las consiguientes responsabilidades. A petición del Tribunal Examinador de Médicos, el Secretario de Justicia de Puerto Rico, solicitará un auto de Injunction para impedir que la persona acusada de ejercer ilegalmente la medicina y cirugía o sus profesiones aliadas en este Estado Libre Asociado, continúe el ejercicio de dicha profesión de médico o de cualesquiera de sus ramas, hasta tanto se resuelva la acusación."

"Artículo 15. Los médicos del Ejército, Marina y Servicio de Sanidad Pública (United States Army and Public-Health Service), quedan dispensados de los exámenes anotados en el Artículo 11, y podrán ejercer la medicina en Puerto Rico, mientras se encuentren en el ejercicio activo de sus funciones oficiales, para lo cual deben obtener una licencia especial expedida por el Tribunal y pagar veinticinco (25) dólares de derechos además de cumplir con lo establecido en el Artículo 14 de esta Ley. Este derecho se entenderá que ha cesado tan pronto como cesara en el ejercicio de sus funciones oficiales."

"Artículo 16. Quedan también exentos de los requisitos de examen, aquellos médicos-cirujanos que posean un diploma expedido por el Tribunal Nacional de Médicos Examinadores (National Board of Medical Examiners of the United States of America), pero deberán obtener su licencia y pagar los derechos correspondientes, según el Artículo 12." DEROGADO.

"Artículo 17. El Tribunal expedirá una licencia provisional especial autorizando la práctica de la medicina y cirugía en Puerto Rico, a todo médico cirujano que muestre evidencia de haber sido aceptado a un programa de internado y residencia en un hospital aprobado por el Tribunal, que haya aprobado aquella parte del examen de reválida que el Tribunal tenga a bien exigir, y que cumpla con todos los demás requisitos que exija la ley, disponiéndose, que en el caso de médicos cirujanos extranjeros que estén tramitando su residencia permanente en Puerto Rico, deberán, además de lo anterior, someter evidencia de los trámites llevados a cabo ante el Departamento de Inmigración y una declaración jurada de su intención de residir en Puerto Rico con carácter de permanencia.

Dicha licencia provisional especial será expedida por el término de un año y podrá renovarse por un año adicional, disponiéndose, que este término podrá extenderse por un tercer año en aquellos casos especiales en que el Tribunal así lo considere necesario.

En el caso de ciudadanos extranjeros que deseen hacer su entrenamiento médico post-graduado en Puerto Rico, el Tribunal tendrá discreción para por reglamento exigir los requisitos que crea conveniente mediante reglamento y extender la licencia provisional especial mientras completa dicho entrenamiento.

La omisión de este requisito constituirá práctica ilegal de la medicina en Puerto Rico."

"Artículo 18. El Tribunal Examinador de Médicos estará autorizado para establecer, mediante las condiciones y requisitos que juzgue necesarios, relaciones de reciprocidad de dispensa de examen, directamente con los "Estados Unidos de América", o de cualquier otro país, cuyos Tribunales exijan el más alto grado de educación profesional; Disponiéndose, que el Tribunal Examinador de Médicos podrá conceder a los médicos que sean ciudadanos de otros países los mismos privilegios y derechos que esos países concedan a los médicos de los Estados Unidos y de Puerto Rico. En el caso de revocación de licencias por el Estado de Nueva York u otro estado en el cual el Tribunal Examinador de Médicos de Puerto Rico tenga convenio de reciprocidad, o por el National Board of Medical Examiners de los Estados Unidos, -ipso facto- quedará revocada también la licencia que haya sido extendida por el Tribunal Examinador de Médicos de Puerto Rico al mismo interesado."

"Artículo 19. El Tribunal Examinador de Médicos deberá llevar un registro conteniendo el nombre, número de la licencia, dirección residencial y otra información que se estime pertinente de toda persona que

obtuviere una licencia de dicho Tribunal. Todo médico vendrá obligado a renovar su licencia cada cuatro (4) años, mediante el pago de diez (10) dólares."

"Artículo 20. Para el ejercicio de la profesión de enfermería obstétrica en el Estado Libre Asociado de Puerto Rico, se requerirá la obtención de una licencia, para la expedición de la cual se deberán llenar a satisfacción del Tribunal, los requisitos señalados a continuación: Ser mayor de edad, saludable física y mentalmente, de buena conducta moral y ser graduada de una escuela superior reconocida por el Departamento de Instrucción Pública del Estado Libre Asociado o su equivalente. La identificación de las solicitantes se hará mediante declaración jurada por las mismas, y de cualesquiera otras pruebas que el Tribunal Examinador exigiere. Se exigirá a toda solicitante que presente una licencia en vigor de enfermera graduada y ser graduada de una escuela de enfermería obstétrica reconocida por el Tribunal, cuya graduación sea el producto de estudios teóricos prácticos por un período no menor de 6 meses durante los cuales las estudiantes completarán un currículo a base de práctica supervisada por la facultad médica y de enfermería obstétrica de una escuela debidamente organizada para este propósito. Esta práctica incluirá la atención de 25 alumbramientos normales y experiencia clínica en el manejo de casos en las distintas fases de la obstetricia, incluyendo la participación en el manejo de los aspectos de la obstetricia complicada. La experiencia clínica deberá efectuarse en aquellas facilidades hospitalarias que para este propósito estén debidamente reconocidas por el Tribunal Examinador de Médicos. Aceptadas las solicitantes, éstas deberán aprobar un examen teórico en obstetricia que incluya, además, los fundamentos y principios pediátricos y ginecológicos que forman parte del ciclo obstétrico. El examen se llevará a cabo de conformidad con las reglas y reglamentos que dicte el Tribunal. Aprobado el examen, el Tribunal expedirá a cada interesada una licencia autorizándola para ejercer la profesión de enfermería obstétrica en el Estado Libre Asociado de Puerto Rico; Disponiéndose, que tal licencia sólo autorizará la asistencia de partos normales; y el cuidado de la madre durante las distintas fases del ciclo materno, ambos bajo supervisión médica."

El Tribunal Examinador de Médicos reglamentará la práctica de la profesión de enfermería obstétrica. Será motivo de cancelación de la licencia la infracción a las disposiciones de los reglamentos dictados por el Tribunal Examinador de Médicos a tales efectos. La cancelación se llevará a efecto según dispone el

Artículo 23 de esta Ley.

Se autoriza al Departamento de Salud para expedir, cuando lo crea conveniente, permiso de *comadrona auxiliar*; para fijar las facultades y deberes de las mismas, y para dar y fijar la instrucción a ese efecto correspondiente, sin la cual no podrá expedirse tal permiso."

"Artículo 21. Toda persona que desee ejercer la profesión de practicante en Puerto Rico deberá, al solicitar la licencia correspondiente, además de someter al Tribunal, las pruebas de su identificación personal, y los diplomas, o certificados que posea, llenar los impresos que le sean suministrados por el Secretario de Estado y demostrar que es mayor de edad, que goza de buena salud y reputación moral. Presentará además, un certificado acreditativo de haber cursado y aprobado las materias exigidas en los dos primeros años de estudio de instrucción secundaria. Deberá poseer y presentar, asimismo, un diploma obtenido mediante tres años de estudios teóricos y prácticos en uno o varios hospitales, reconocidos por dicho Tribunal como competentes para impartir la necesaria instrucción."

"Deberán, además, tomar y aprobar examen elemental ante dicho Tribunal, de las siguientes materias: física, química, anatomía y fisiología humanas, bacteriología, terapéutica, materia farmacéutica, toxicología, patología médica y quirúrgica, higiene pública y privada, asepsia y antisepsia. Pasarán además un examen práctico sobre aplicaciones de apósitos y vendajes, curaciones y cuidado de pacientes. Ambos exámenes, el teórico y el práctico, se efectuarán de acuerdo con las reglas y reglamentos que dicte el Tribunal. Aprobados estos exámenes, el Tribunal expedirá al interesado una licencia autorizándolo para ejercer libremente la profesión de practicante en el Estado Libre Asociado de Puerto Rico; Disponiéndose, que nada de lo contenido en este Artículo referente a requisitos para ser admitido a examen, afectará a los que con anterioridad a la aprobación de la Ley de 30 de julio de 1923, sufrieron su examen y así como a aquellos que aún conservan sus solicitudes en el archivo del Tribunal Examinador de Médicos; Disponiéndose, además, que los que poseen licencias de practicantes, ejercerán su profesión tan sólo dentro de los límites que los estudios aprobados para adquirir la misma determinan, y aplicarán sus conocimientos únicamente en casos de cirugía menor, y en aquellos casos en que actúen bajo la dirección y supervisión de un médico cirujano: Disponiéndose, también, que la infracción de las anteriores disposiciones, excepto cuando se trate de primeros auxilios

en casos de envenenamientos, hemorragias graves, quemaduras, heridas graves, fracturas y cualquier otro estado de urgencia, será considerado como práctica ilegal de la medicina, sujeto a la penalidad que marca el Artículo 9 de esta Ley y a las disciplinarias que señala el Artículo 14 de la misma."

"Artículo 21-A. Toda persona que aspire a obtener licencia para ejercer la profesión de podiatría en Puerto Rico deberá llenar los siguientes requisitos: "

"(1) Ser mayor de edad y residir con carácter de permanencia en los Estados Unidos de América o ser ciudadano de los Estados Unidos de América."

"(2) Haber aprobado los exámenes de reválida de podiatras que versarán, entre otras asignaturas, sobre bacteriología, histología, anatomía, patología, fisiología, química, práctica de podiatría, materia médica y terapéutica."

"(3) Poseer un diploma o título de podiatra expedido por alguna escuela de Podiatría reconocida por el Tribunal Examinador de Médicos, cuyo curso de estudios sea de no menos de cuatro (4) años luego de haber aprobado un curso de no menos de dos (2) años del currículo normal conducente a la obtención de un bachillerato en una universidad o colegio acreditado."

"Una vez llenados los requisitos anteriores, el solicitante que desee ser admitido a examen deberá llenar los impresos que suministra el Tribunal para que se acredite bajo juramento ante Notario Público: su identidad, la autenticidad de los diplomas y títulos que posee, su mayoría de edad y los certificados de buena conducta y reputación. Una vez aprobados los exámenes que señala la cláusula (2) de este artículo, el Tribunal expedirá al interesado una licencia, autorizándolo a ejercer libremente la profesión de podiatra en el Estado Libre Asociado de Puerto Rico."

"Artículo 22. De acuerdo con lo establecido en el Artículo 10 de la ley original del año 1903, los archivos pertenecientes a la extinta sub-delegación de Medicina quedan en poder del Tribunal así como los del actual Tribunal Examinador de Médicos."

"Artículo 23. El Tribunal Examinador de Médicos, o el Secretario de Estado, por su propia iniciativa, o a virtud de queja o denuncia debidamente fundada, de cualquier persona natural o jurídica, podrá en cualquier momento investigar la identidad de cualquier persona que pretenda ser, o se anunciare o haga pasar como médico cirujano, osteópata, podiatra, practicante, enfermera obstetra o comadrona, licenciado o no, por el Tribunal y después de notificar por escrito al interesado, tendrá poder para exigirle

que presente pruebas razonables y a satisfacción del Tribunal de que posee una licencia legalmente obtenida para practicar su profesión en el Estado Libre Asociado de Puerto Rico y de que en realidad es la persona a quien originalmente se expidió dicha licencia. Si de la investigación resultare que el denunciado no tiene licencia para practicar, o no le pertenece legítimamente la que posee, ésta será anulada por el Tribunal y, además, en cualquiera de los dos casos traspasará el expediente al Secretario de Justicia de Puerto Rico para la debida persecución de los infractores ante los tribunales del país; disponiéndose, que el Tribunal Examinador de Médicos tendrá poder para retirar y anular, temporal o definitivamente, la licencia que poseyere cualquier médico-cirujano, osteópata, podiatra, practicante, enfermera obstetra o comadrona que fuere convicto ante este Tribunal de haber incurrido en fraude o engaños cometido durante el ejercicio de la profesión, de haber cometido delito grave (felony), de ser alcohólico consuetudinario; adicto al uso de drogas narcóticas; de practicar o de ayudar a efectuar, de cualquier manera, método o forma, un aborto criminal de una mujer; de excederse en las atribuciones profesionales que le señala esta ley; de mala práctica en el ejercicio de su profesión, es decir: de incompetencia burda y manifiesta, con perjuicio de tercero; de conducta inmoral y deshonrosa; disponiéndose, asimismo, que el procedimiento a seguir para la anulación o suspensión temporal de una licencia será incoado por uno de los miembros del Tribunal designado por el Presidente, asesorado por el Secretario de Justicia de Puerto Rico, a virtud de querella presentada por cualquiera de los miembros del Tribunal o declaración jurada presentada por cualquier ciudadano. La querella o declaración deberá en todo caso aducir hechos que *prima facie* constituyan causa

probable. El querellado tendrá para su defensa ante el Tribunal Examinador de Médicos todos los derechos concedidos a personas acusadas de delito, con excepción del juicio o investigación por jurado; disponiéndose, igualmente, que en todos los casos de anulación o suspensión de licencias el fallo del Tribunal Examinador de Médicos será comunicado a las autoridades fiscales y policíacas del Estado Libre Asociado para que exijan su debido cumplimiento; pero en los casos a los que se refiere el disponiéndose inmediato anterior, y siempre que el fallo fuere la anulación o suspensión de licencia por más de un año, dicho fallo no será firme ni comunicado a las autoridades fiscales y policíacas, mientras el Tribunal Superior no lo haya revisado y juzgado el caso; y la persona interesada podrá apelar para ante dicho Tribunal dentro del término de treinta días."

"Artículo 24. Toda persona que ejerciere cualquiera de las profesiones auxiliares de la medicina y cirugía en Puerto Rico sin licencia legal para ello, incurrirá en las mismas penas que determina el artículo 9 de esta ley. Disponiéndose, que dentro de los noventa días después de la aprobación de esta ley, toda persona que haya ejercido la quiropodía o podiatría en Puerto Rico por un período mayor de dieciocho (18) meses podrá solicitar por escrito una licencia del Tribunal Examinador de Médicos, quien vendrá obligado a extenderla sin examen siempre y cuando la evidencia presentada compruebe la competencia profesional del solicitante y disponiéndose que los solicitantes cubiertos bajo este artículo podrán ser, o ciudadanos de Estados Unidos, o residentes de Puerto Rico."

"Artículo 25. Toda ley o parte de la misma que se oponga a la presente, queda por ésta derogada."

"Artículo 26. Esta Ley empezará a regir a los 90 días después de su aprobación."

EDITORIAL

RANDON COMPOSITION OF A PSYCHIATRIC UNIT AT A LARGE METROPOLITAN VETERANS ADMINISTRATION HOSPITAL

It is the aim of the present review to examine some of the vital statistics of mental disorder casualties among veterans of the Armed Forces. In our study, we randomly took 100 admissions to the Psychiatric Department of the Manhattan Veterans Administration Hospital and examined their emotional disorders in relation to the various branches of the Armed Forces, the age of the patients, the types of illness encountered, whether the illness was service-connected and whether the patient was receiving a government pension as a result of this disability.

One of the most difficult problems which arose in this study was the inability to correlate the emotional trauma precipitated by service in the military with what may or may not have existed before service. Many veterans deny any disorder of personality prior to service, so that they may receive the benefits granted to those who suffer service-induced illnesses.

All the patients in the survey were assigned to first and second year residents for diagnosis and treatment. These resident physicians are supervised by a staff psychiatrist. The diagnoses for the patients in this study were jointly arrived at by resident and staff through in-depth evaluations.

In our study no psychological testing was used. The reasons to avoid psychometrics were based primarily on the statement of Mishler and Scotch who wrote: "Each year innumerable research reports, review and conceptual analyses appear. They represent a variety of points of view and present diverse types of data, reflecting a wide range of authors. Despite this intensive effort and and increasing amount of interest in recent years, schizophrenia remains an illness about which there is little definite or reliable knowledge" (1). Since almost one half of our sample were veterans diagnosed as schizophrenics, testing did not appear applicable. Another factor which determined our non-use of psychometrics is that many psychiatrists view psychometrics as dealing with abstract ideas and concepts and not realistically germane to the thinking, feeling and behavior of the patient.

Table I shows the distribution of patients according to the branch of the Armed Forces in which they served and the distribution of government pensions to each of these branches.

TABLE I

	No.	Service connected	Percent of pts on pension for connection	Active Duty	Male	Fem.
Army	62	31	50 percent	0	59	3
Marine	8	0	0	1	8	0
Navy	20	10	50	0	18	2
Air Force	8	4	50	1	8	0
Coast Guard	2	0	0	0	2	0

The most important result seen in Table I is that 45 percent of our sampling are receiving benefits from the Veterans Administration. This, in fact, means that the illness was aggravated or first appeared during military service or that it is service-related. Considering the high percentage of schizophrenics in our sample, we must wonder if there is an inadequate emphasis on the mental status examination during preinduction and induction physicals. It is certainly possible that a good portion of our seriously emotionally disabled veterans are casualties who have been exposed to the stressful circumstances of military service as a result of poor induction procedures.

Table I also shows that no patients from the Marines are receiving service-connected pensions. Here again, we must emphasize the general nature of the candidates being accepted into this branch of service. Furthermore, their volunteer status may create a desire not to involve the Armed Forces in their difficulty.

Table II analyzes the illness in relation to the various branches of service.

TABLE II
DIAGNOSIS BY BRANCH

	Army	Navy	Marines	Air Force	Coast Guard
Schizophrenia	28	12	4	4	2
Psychotic Depression	4	0	0	0	0
Neurotic Depression	8	4	2	2	0
Psychoneurotic reaction					
Anxiety reaction	10	2	0	1	0
Chronic Alcoholism	4	0	0	0	0
Manic-Depressive	4	0	0	0	0
Drug addiction with psychosis	4	0	0	0	0
Conversion Hysteria	2	0	0	0	0
Organic Brain Syndrome	0	0	0	1	0
	64	18	8	8	2

One very striking result is immediately apparent. The Marines, despite their tough training and long tradition of demanding, superior performance emerge, in our survey, as the branch of the military with the lowest incidence of emotional disturbance. Obviously an important factor here is that the Marines are an all volunteer service. But we believe that the Marine Corps subjects their candidates to a more careful and thorough screening process at preinduction centers and that during the early rigorous training, more potential physical and emotional disorders are discovered.

Another interesting point to note is that proportionally, schizophrenia was highest in the Navy. It is possible that the social isolation of ship life may precipitate acute schizophrenia in the predisposed individual.

TABLE III
CASUALTIES BY AGE GROUP AND BRANCH OF SERVICE

	<i>Army</i>	<i>Navy</i>	<i>Marines</i>	<i>Air Force</i>	<i>Coast Guard</i>	<i>Total</i>
20-29	22	4	4	4	2	36
30-39	2	0	2	2	0	6
40-49	12	8	2	2	0	24
50-59	22	4	0	0	0	26
60-69	6	2	0	0	0	8
	64	18	8	8	2	100

In the Table III we see that the largest number of mental casualties occurs in those age groups corresponding to periods of combat involvement.

In conclusion, we strongly recommend the importance of detailed psychological evaluation of potential candidates for military service, especially when induction will lead to combat service. The added expenditure of these thorough screening processes is slight in comparison to the expense of treating and supporting the psychiatric casualties of military service.

There are many essential, well-structured and secured noncombat military positions available for those individuals whose potentially psychotic or psychoneurotic personality predisposes them to psychiatric illness under the stress of war.

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1. *Mishler, E. G. and Scotch, N. A.: "Social-Cultural Factors in the Epidemiology of Schizophrenia." Psychiatry, 1963, 26: 315-351.*

NOTA BIOGRAFICA



DR. JAIME A. OLMO

Presidente, Asociación Médica de Puerto Rico

1974

Nació el Dr. Jaime A. Olmo en Barceloneta, Puerto Rico, el 28 de agosto de 1930. Cursó sus estudios premedicales en la Universidad de Puerto Rico, obteniendo en el 1950 su título de Bachiller en Ciencias. En ese mismo año se trasladó a España donde comenzó su carrera de medicina. En el 1956 se graduó de Doctor en Medicina de la Universidad de Santiago de Compostela, España. Inmediatamente regresó a Puerto Rico haciendo su internado en el Hospital Auxilio Mutuo de Hato Rey.

Es miembro, entre otras, de la Asociación Médica Americana, Asociación Puertorriqueña de Graduados en Universidades Españolas y de la Sección de Medicina General de Puerto Rico desde el 1957, y ha participado en numerosos Consejos y Comités de la Asociación, así como de la Sociedad Médica del Distrito Este, donde ocupó la Presidencia en 1971.

NOTICIAS

PEDIATRIC BEHAVIOR MANAGEMENT CONFERENCE FEBRUARY 21-22, 1975.

Sponsor: Department of Pediatrics, University of Miami School of Medicine, Miami, Florida

For information on fee, program site, and registration, contact the Division of Continuing Medical Education, University of Miami School of Medicine, P. O. Box 520875, Biscayne Annex, Miami, Florida 33152. Tel. (305) 547-6716.

10TH INTERNATIONAL CONGRESS OF GERONTOLOGY, JERUSALEM - JUNE 22-27, 1975.

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THE MONTH IN WASHINGTON - Prepared by the Washington office of the AMA

The Senate has overwhelmingly passed legislation that would require one-fourth of all medical and dental school graduates to spend at least two years in the nation's slums and rural areas where there are shortages of physicians.

Earlier the Senate voted down a much more sweeping bill sponsored by Senator Edward Kennedy that would have required mandatory federal service for all health professions students and national licensure and relicensure for physicians and dentists.

Hours before the first Senate vote Senator Kennedy, aware that he was losing liberal support, shelved his Health Subcommittee's \$5.1 billion, five-year bill and offered a substitute measure

which was trounced 57-34. Instead the Senate adopted a measure sponsored by Senator J. Glenn Beall, Jr., (R-Md.) and went on to pass a three year, \$2 billion health manpower bill by a vote of 81-7.

The bill finally approved by the Senate was stripped of most of the controversial provisions of the original Kennedy bill and was a victory for the American Medical Association, the American Dental Association, and the Association of American Medical Colleges.

The Senate bill calls for a three-year extension of present federal programs for aiding medical education at a total cost of about \$2 billion. Capitation grants for medical schools would be continued at a high level despite the administration's request for a cutback.

The Beall substitute measure provides federal aid to medical and dental schools that agree to allocate 25 percent of their classroom space to students volunteering to serve in areas short of medical care workers. In return for either civilian or federal service under the National Health Service Corps, the students would receive scholarships.

The Kennedy bill would have compelled all medical school graduates to serve in the shortage areas, an approach labelled a "domestic draft" by Senator Beall and his committee colleagues Senators Peter Dominick, R-Colo.) and Robert Taft, Jr., (R-Ohio) who developed the substitute measure.

The Senate bill does not contain the original requirement for a federally-appointed National Council on Postgraduate Education with 10 regional councils designed to deal with allocation of speciality training slots and foreign medical graduates. The Senators contended this was too heavy an involvement of the federal government.

Another casualty of the Senate voting was the proposal for federal standards for licensing and re-licensing physicians and dentists, a plan that stirred wide protest within the professions.

The Maryland Senator's bill represented a middle ground on financial help for medical schools, with the AAMC contending the amount was too low and the Administration believing it was too high.

Immigration standards would be tightened to restrict the number of foreign medical graduates under the Senate bill.

On the other side of the Capitol, a House subcommittee has approved a counterpart bill to the Senate manpower legislation that would establish federal scholarships intended to increase the number of doctors in the nation's rural areas and urban slums where there are doctor shortages.

The House subcommittee's bill authorizes \$240 million over three years for National Health Service Scholarships paying \$9,200 to \$9,500 a year to cover the cost of a medical education.

In return, the scholarship recipients would have to spend two to four years serving in areas with doctor shortages. Non-scholarship students who volunteer to practice in areas with doctor shortages would receive a guaranteed income of \$28,000 a year until they get their practices started.

The bill would also give medical schools a grant of \$2,100 a year for each student—\$400 less than the schools now receive.

But any graduate who does not practice in an underserved area would have to repay the government the money given to the medical school.

Though the House bill differs sharply from the Senate version, particularly the Senate provision forcing medical schools to have one-fourth of their classes on federal scholarships requiring two years of practice in underserved areas, the House subcommittee Chairman, Paul G. Rogers, (D-Fla.), believes the difference can be resolved when the two bills go to conference.

Undaunted by collapse of the National Health Insurance (NHI) measure in the House Ways and Means Committee in late summer, Senator Russell Long, (D-La.) is forging ahead with plans to ram a bill through the Senate in the strained atmosphere of a "lame duck" Congress. Long is Chairman of the Senate Finance Committee and sponsor along with Senator Abraham Ribicoff, (D-Conn.) of a NHI plan featuring Social Security financed and operated catastrophic health insurance plan for all. The Long-Ribicoff bill enjoys the official support already of 25 Senators and rates some chance of Senate passage.

But the chances of passage of a version of such a Senate bill by the House in a "lame duck" session after the November elections is considered extraordinarily slim.

The Food and Drug Administration has indicated to Congress it will order warning labels placed on oral diabetic preparations when a new study of the drug's safety and efficiency is published soon.

Alexander Schmidt, M.D., FDA Commissioner, told the Senate Monopoly Subcommittee headed by Senator Gaylord Nelson that the FDA endorses a 1970 study by the University Group Diabetes Program which found that the drugs (tolbutamide and phenformin) were linked with a heart disease death rate twice as high as for diabetics taking insulin or no drug at all through diet.

Within a few weeks, an 18-month audit of the 1970 study

is due to be published and apparently it backs up the major findings of previous study. The audit is being prepared by a special panel of the Biometrics Society.

Law suits challenging the FDA's right to impose warning labels have deterred the agency from action to date, Dr. Schmidt told the Subcommittee. He said many physicians have something close to a "religious belief" that the oral diabetic preparations by lowering blood sugar decrease the likelihood of cardiovascular complications among diabetics.

Major opponent of relabeling is the Committee on the Care of the Diabetic, composed of some 180 physicians. The issue has proved a serious controversy among specialists in the treatment of diabetics, with experts taking both sides.

The FDA is relying on the audit to strengthen its hand sufficiently in the legal fight to allow it to go ahead with warning labels, but the prospects are that the actual implementation of such an order will be tied up in the courts for some time.

EMERGENCY MEDICINE TODAY - From the Commission on Emergency Medical Services

PROPOSED GUIDELINES FOR PEDIATRIC OFFICE EMERGENCY EQUIPMENT

With the excellent cooperation and input from the Committee on Disaster and Emergency Medical Care of the American Academy of Pediatrics and the Chairman of the American Academy of Pediatrics Committee on Accident Prevention, the liaison member from the American Academy of Pediatrics Subcommittee on Accidental Poisoning, and selected consultants, a list of essential equipment and drugs for the pediatrician's office from which a choice should be made based upon the factors stated below is submitted.

Not infrequently an emergency may be present in a pediatrician's office that requires immediate attention, possibly a lifesaving procedure. It may occur primarily in the office as an untoward reaction to immunization or a drug; or an accident such as falling off an examining table; or a choking spell following aspiration of a foreign body (peanut, candy, etc.), vomitus; febrile or "idiopathic" seizure; or a severe asthmatic attack, to name a few. An infant or child may also be brought directly to the office from home, school, or recreational area, circumventing a hospital emergency facility, acutely ill or injured.

To care for such emergencies, it is suggested that the pediatrician or primary physician caring for infants and children have available for immediate use a number of remedial drugs and lifesaving equipment. He should be competent in modern methods of emergency treatment and cardiopulmonary resuscitation (CPR). The variety of drugs and equipment that should be available is contingent upon several factors.

1. Is the physician in solo practice?
2. Is he in a group practice in which any number of back-up specialists are available, such as orthopedist, otolaryngologist, ophthalmologist, neurologist, surgeon, allergist,

dermatologist, psychiatrist, etc.?

3. What is the proximity of the physician's office to an appropriate hospital?
4. What is the pediatrician's knowledge (basic training) in emergency medical care?

EQUIPMENT:

1. Self-filling bag, valve, portable oxygen with mask, infant, child, adult sizes; (Manual resuscitator bag, machine unit).
2. Oxygen cylinder and oxygen flow meter.
3. Endotracheal tubes, sizes 3-7 and adapter.
4. Esophageal airway.
5. DeLee suction (portable suction machine).
6. Laryngoscope; various size blades: infant, child, adult.
7. Oral airways; (double ended tubes are useful); various sizes.
8. Cricothyrotomy needle, 14 gauge.
9. Levine tubes, 10-14; gastric lavage equipment.
10. IV tubing with microdrop appliance.
11. Cut-down tray, including Polyethylene tubing, sterile, teflon needles.
12. Scalp vein infusion set.
13. Splints, all sizes.
14. Fluorescein eye strips.
15. Sutures.
16. Sterile 2x2", 4x4" gauze pads.
17. Sterile compresses.
18. Roller bandage, 1" x 5 yds, 2" x 5 yds.
19. Kling, various sizes.
20. Muslin roller bandage, 6x6".
21. Sheets for restraint, blanket.
22. Emergency tags.
23. Culture tubes.
24. Test tubes, sterile, with and without oxylate.
25. Specimen bottles.
26. Dipstick.
27. Syringes, sizes 1, 2, 10, 20, 50, cc.
28. Insulin syringes, 100 units; regular insulin.
29. Needles, various sizes and lengths, 18/25 gauge.
30. Butterfly needles, No. 22.

DRUGS:

1. Activated powdered charcoal (Norit A) 500 mg. (If poisonous drug unknown, save vomitus or lavage material for laboratory analysis.)
2. Alcohol, 70 percent and/or other disinfectants.
3. Aminophylline, IV 250 mg/10ml.
4. Antibiotics.
5. Aromatic spirits of ammonia.
6. Atropine sulphate, 0.4 mg/ml.
7. Benadryl, 50 mg/ml. (diphenhydramine hydrochloride)
8. Calcium chloride, 10 percent solution IV for cardiac resuscitation only; calcium gluconate, 10 percent solution, IV, 10 cc ampules.
9. Dextrose, 50 percent solution, 50 ml.
10. Diazepam (Valium) injection, 5 mg/ml.
11. Digoxin, 0.25 mg./ml.

12. Dilantin (diphenylhydantoin hydrochloride) 100mg. Steri-Vial with empty 2.5 ml syringe and ampule containing solvent.
13. DT, DTT, T toxoid, human immune globulin.
14. Epinephrine, 1-1000 (to be diluted appropriately for cardiac use).
15. IV fluids, 1/2 normal saline and 5 percent glucose; Ringer lactate solution.
16. Furacin ointment and dressings.
17. Hydrocortisone sodium succinate; 100mg. ampules; Dexamethasone sodium phosphate, 4 mg/cc.
18. Ice cubes.
19. Isoproterenol, 0.2 mg/ml. (1-5000 sol. I.V., I.M., Subcu.)
20. Lidocaine, 0.05 percent solution.
21. Morphine or Demerol (meperidine hydrochloride).
22. Nalorphine hydrochloride (Nalline) 0.2 mg/ml.
23. Sodium bicarbonate, ampules 50 ml (1mg/1ml.)
24. Sodium phenobarbital, ampules, 130 mg.
25. Sulfamylon cream.
26. Syrup of ipecac.

It has been suggested that a child psychiatrist or general psychiatrist be available for immediate consultation, either in person or by telephone, if a psychiatric emergency arises in the pediatrician's office.

It is also recommended that the following phone numbers be conspicuously posted in all pediatrician's offices:

1. local poison control center.
2. local appropriate hospital.
3. local police, fire department.
4. local health department.
5. crisis intervention center.
6. ambulance service.

A NATIONAL SEMINAR

The Society of Chartered Property & Casualty Underwriters (CPCU) will conduct a national seminar entitled "Medical Malpractice Liability/What are the alternatives?" in Tampa, Florida, January 27-28, 1975.

Registration fee for the seminar is \$125 (CPCU members) and \$140 (non-CPCU members). For further information and registration applications, contact James E. Reed, Society of CPCU, P. O. Box 566, Media, PA 19063.

From the Kensington Comprehensive Health Care Center, Inc., P. O. Box 15209, Philadelphia, Pennsylvania 19125:

P. R. Medical Association
San Juan Stop 19
Santurce, Puerto Rico

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We are interested in employing physicians in our offices

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We would deeply appreciate if if you would inform the members of your association of our desire to employ Puerto Rican physicians, and ask them to write to us at our above address.

Sincerely yours,

(Sgd) Dr. Oscar F. Rothchild
Chairman, Executive Staff
Kensington Hospital

HEW NEWS - INDEPENDENT LABORATORIES IN THE MEDICARE PROGRAM

HEW Secretary Caspar W. Weinberger announced new and generally more stringent requirements for the participation of independent laboratories in the Medicare program.

Secretary Weinberger pointed out that there are 2,900 laboratories providing service to Medicare beneficiaries and it is of critical importance that these services meet the highest professional standard.

The regulations provide that participating laboratories will be required to meet the quality control standards of the Clinical Laboratories Improvement Act of 1967. These standards are now being enforced on a nationwide basis by the Center for Disease Control for other laboratories.

Under the regulations, Secretary Weinberger said that all laboratories in the Medicare program must participate in an acceptable proficiency testing program in all specialties and subspecialties for which they are certified.

The regulations will go into effect 30 days after the publication in today's *Federal Register*.

AMA URGES CAUTION IN PRESCRIBING DRUGS

The American Medical Association today urged physicians to exercise great caution in prescribing sleeping pills and tranquilizers that might lead to drug abuse and addiction.

"Because of the proliferation of psychoactive substances, the physician, today more than ever before, should guard against contributing to drug abuse through injudicious pres-

cription practices or by acquiescence to the demand of some patients for instant chemical answers to their problems," the AMA declared.

The physician should first determine that there are sound medical indications for using a psychoactive drug, such as a sleeping pill or a tranquilizer. He should then weigh three additional factors: (1) The severity of symptoms in terms of the patient's ability to accommodate them, (2) The patient's reliability as a drug taker, noted through observation and careful history taking, and (3) The dependence liability of the drug itself, the AMA said.

The AMA listed ten "points to remember" for physicians when administering or prescribing these products:

1. Use barbiturates and other sedative-hypnotics for relief of severe symptoms, but avoid them for minor complaints of distress or discomfort.

2. Attempt to diagnose and treat underlying disorders before relying on drugs of this class for symptomatic relief.

3. Assess susceptibility of the patient to drug abuse before prescribing barbiturates or any other psychoactive drugs. Weigh benefits against hazards.

4. Use dosages that will not lower sensory perception, responsiveness to the environment, or alertness below safe levels.

5. Know how to administer barbiturates when clinically indicated for withdrawal in cases of drug dependence of the barbiturate type.

6. Using periodic checkups and family consultations, monitor possible development of dependence in patients who are on an extended sedative-hypnotic regimen.

7. Prescribe no greater quantity of a drug than is needed until the next checkup.

8. Warn patients to avoid possible adverse effects because of interaction with other drugs, including alcohol.

9. Counsel patients as to the proper use of medication -- follow directions on the label, dispose of old medicine no longer needed, keep medicine out of reach of children, do not "share" prescription drugs with others.

10. Convey to patients through your own attitude and manner that drugs, no matter how helpful, are only one part of an overall plan of treatment and management.

The statement was prepared by the AMA Committee on Alcoholism and Drug Dependence, and approved by the AMA Council on Mental Health and the AMA Department of Drugs.

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A CLINICAL

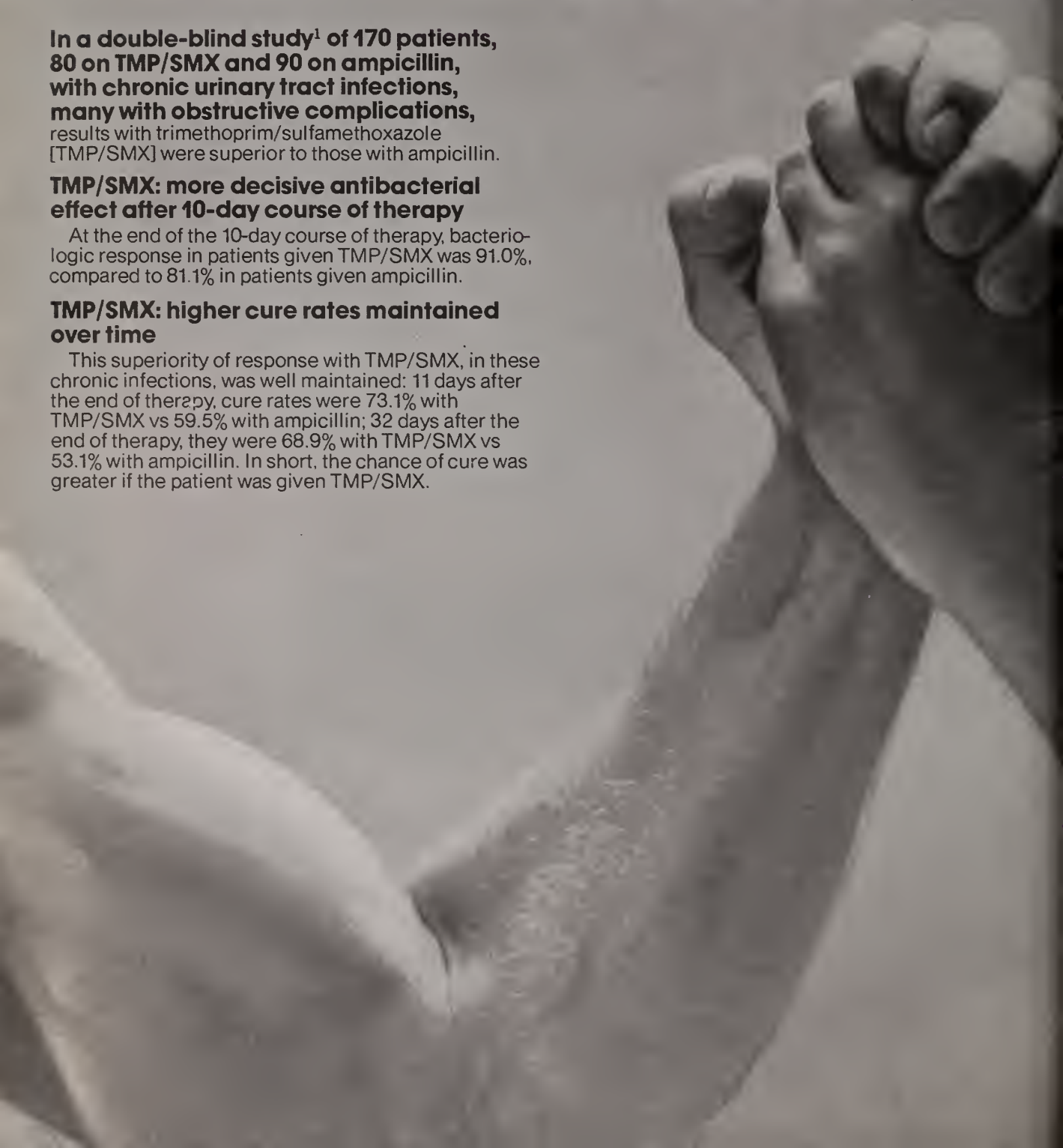
In a double-blind study¹ of 170 patients, 80 on TMP/SMX and 90 on ampicillin, with chronic urinary tract infections, many with obstructive complications, results with trimethoprim/sulfamethoxazole [TMP/SMX] were superior to those with ampicillin.

TMP/SMX: more decisive antibacterial effect after 10-day course of therapy

At the end of the 10-day course of therapy, bacteriologic response in patients given TMP/SMX was 91.0%, compared to 81.1% in patients given ampicillin.

TMP/SMX: higher cure rates maintained over time

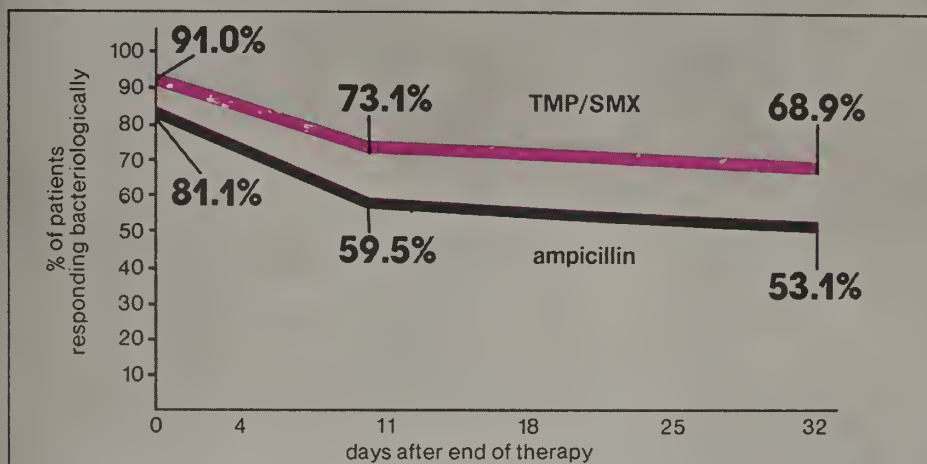
This superiority of response with TMP/SMX, in these chronic infections, was well maintained: 11 days after the end of therapy, cure rates were 73.1% with TMP/SMX vs 59.5% with ampicillin; 32 days after the end of therapy, they were 68.9% with TMP/SMX vs 53.1% with ampicillin. In short, the chance of cure was greater if the patient was given TMP/SMX.



AMPICILLIN

CONFRONTATION

Results after 10-day course of therapy in 170 patients with chronic urinary tract infection¹



Protocol—Dosages: trimethoprim/sulfamethoxazole 2 tablets b.i.d. or ampicillin 500 mg q.i.d. plus placebos to make each drug regimen appear to be identical. Infecting organisms: *E. coli*, *Proteus mirabilis*, indole-positive *Proteus*, *Enterococci*. Criterion for infection: 100,000 or more organisms/ml urine; criterion for cure: 10,000 or less organisms/ml urine.

See next page for prescribing information.



SEPTRA® VS AMPICILLIN

Each tablet contains:
80 mg trimethoprim and
400 mg sulfamethoxazole

A reassuring similarity in incidence of side effects

As a yardstick of the relative safety of a new antibacterial, it is useful to compare it to one with which clinicians are quite familiar. Here's how

TMP/SMX compared to ampicillin in this study.¹ See prescribing information under chart for all possible adverse reactions.

All patients who entered the study were evaluated for side effects.

Clinical signs or symptoms (117 patients)	TMP/SMX (120 patients)	ampicillin (120 patients)	Laboratory abnormalities (117 patients)	TMP/SMX (120 patients)	ampicillin (120 patients)
rash	—	3	thrombocytopenia	2	3
rash with pruritus	1	—	leukopenia	—	2
nausea	1	—	anemia	2	2
nausea and vomiting	2	1	SGOT	2	—
diarrhea	1	2	SGPT	—	1
constipation	1	—	alkaline phosphatase	1	—
facial swelling	—	1	SGOT, SGPT	1	—
			alkaline phosphatase, SGOT, SGPT	1	—
			bilirubin, alkaline phosphatase, SGOT	1	—
			creatinine	1	4

INDICATIONS: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and, less frequently, indole positive *Proteus* species).

IMPORTANT NOTE. Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.

CONTRAINDICATIONS: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period. (Before prescribing, please consult package insert.)

WARNINGS: Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Septra. If a significant reduction in the count of any formed blood element is noted, Septra should be discontinued.

At the present time there is insufficient clinical information on the use of Septra in infants and children under 12 years of age to recommend its use.

PRECAUTIONS: Septra should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

ADVERSE REACTIONS: For completeness, all major reactions to sulfonamides and to trimethoprim are included below even though they may not have been reported with Septra.

Blood Dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

Allergic Reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis,

urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

Gastrointestinal Reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

C.N.S. Reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

Miscellaneous Reactions: Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarthritis nodosa and L.E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

DOSAGE AND ADMINISTRATION: Not recommended for use in children under 12 years of age.

The usual adult dosage is 2 tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual Standard Regimen
15-30	2 Tablets Every 24 Hours
Below 15	Use Not Recommended

HOW SUPPLIED: Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 40, 100 and 500 tablets and strip packages of 100 tablets, each tablet individually packed.

REFERENCE: 1. From a multiclinic study based on a single protocol. Data on file in the Medical Department, Burroughs Wellcome Co.



Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

LIFESAVING PARTNERSHIP... AGAINST CANCER QUACKERY

The anguish associated with cancer is compounded by the cancer quack. False hopes—harmful delays—shattering expenses—deceptive diagnoses—loss of life—these are hazards facing the cancer patient desperate enough to seek a cancer quack.

The problem: how to divert the patient from this tragic encounter.

As medical guide, family counselor, trusted friend—you, doctor, play a major role in the fight against cancer quackery.

We are here to “partner” you.

Our National Office maintains an up-to-date central clearing house for materials on unproven methods of cancer diagnosis and treatment. This is a unique operation and the principal source of such information in the

country. Its services are widely used. Hundreds of inquiries are received and answered from all segments of the community, from coast to coast.

To trigger grass-roots action, we have formulated a model State Cancer Remedy Act designed to control the promotion and sale of unproven methods of cancer management. This has already inspired nine states to legislate against cancer quackery—with active support from the medical community. Copies of the model act, as well as copies of the laws in effect, are available in our National and Division offices.

In these actions against cancer quackery, as in all our efforts against cancer, ours is a lifesaving partnership.

American
Cancer
Society



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L I S T A D E A N U N C I A N T E S

1. BURROUGHS WELLCOME - Empirin Comp. W/Cod. — Septra
2. ROCHE LABS. - Bactrim — Valium
3. W. H. RORER - Camalox

The BactrimTM edge

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of clinical efficacy

- in cystitis, pyelonephritis and pyelitis diagnosed as chronic
- against susceptible strains of the common urinary tract pathogens, usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species.



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

Note: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in chronic and recurrent urinary tract infections.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia in elderly patients on diuretics, primarily thiazides. Sore throat, fever, pallor or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. Data are insufficient to recommend use in infants and children under 12.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, allergy or bronchial asthma; and in those with glucose-6-phosphate dehydrogenase deficiency, where hemolysis may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus,

exfoliative dermatitis, anaphylactoid reactions, peri-orbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12.

Usual adult dosage: Two tablets b.i.d. for 10 to 14 days. For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

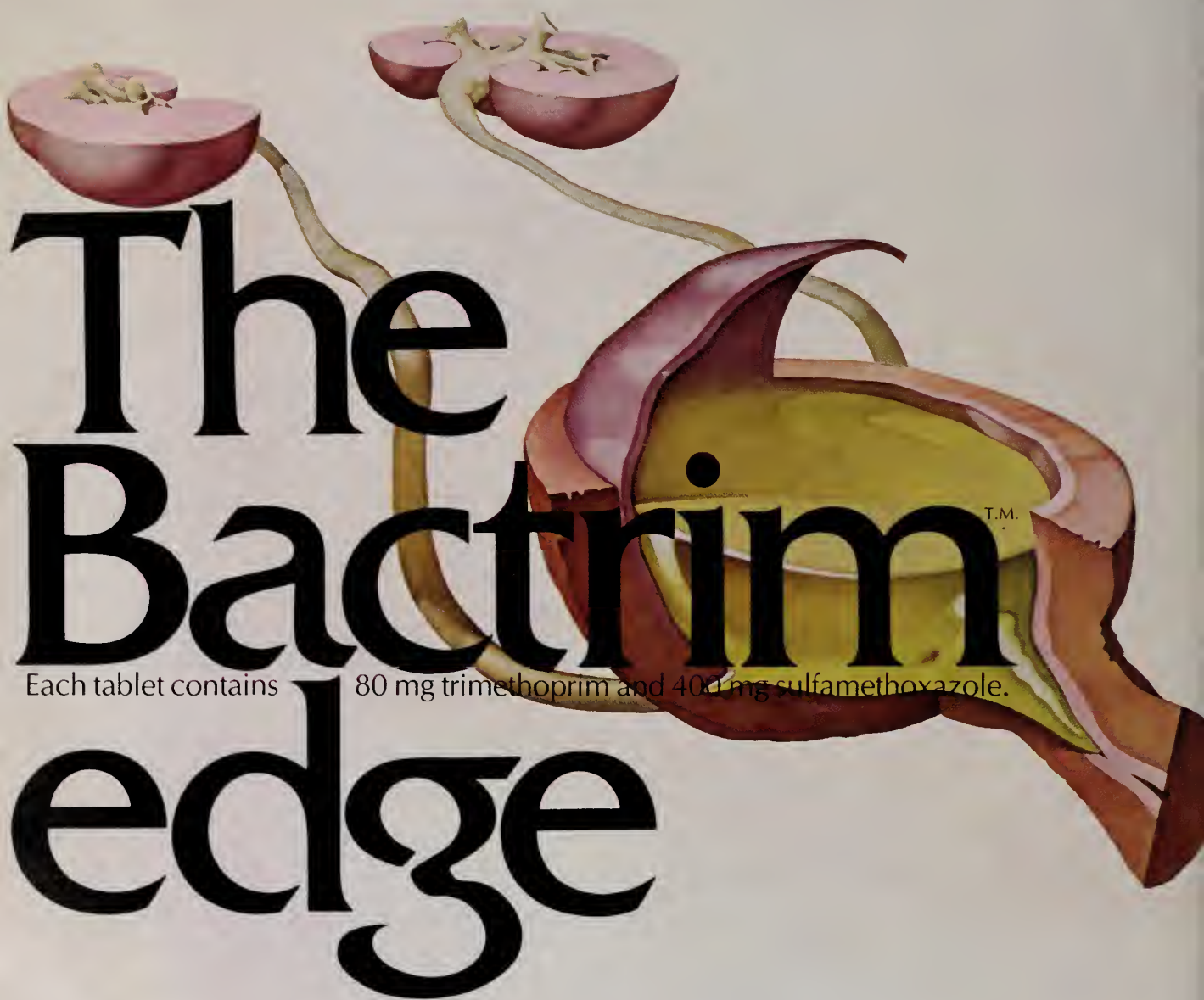
Supplied: Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose[®] packages of 1000; Prescription Paks of 40, available singly and in trays of 10.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

BactrimTM

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.



Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

A high assurance of antibacterial activity
in cystitis, pyelonephritis and pyelitis diagnosed
as chronic and due to susceptible organisms.

Before prescribing, please consult complete product information,
a summary of which appears on preceding page.

